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# Ghana Trips Over the TRIPS Agreement on Plant Breeders' Rights

## Abstract

The premise under which the global IP system is validated has often focused on a traditional materialistic approach. While this seems to find legitimate support in economic reasoning, such a fundamental view also appears to contradict a related social norm claim which dictates that society ought to be shaped by appropriate values rather than economic rubrics. Although Ghana is not a signatory member of the UPOV Convention, there is explicit evidence that the PBRs Bill under consideration in Parliament contains provisions modelled on the UPOV Act 1991 rather than the potentially flexible and “effective sui generis system” in TRIPS. This paper aims to contribute to a recently active area of discussion on the topic by examining the consequences of stringent legislation on PBRs in the absence of adequate safeguard measures to protect public interests. Consequently, the hypothesis of this paper rests on the argument that every system needs checks and balances and the legislative system is no exception; therefore, social policy matters must be integrated into the so-called PBRs Bill in order not to undervalue public interests. To conclude, the author presents an argument based on a logical balance that ought to be found on the path to promulgating such legislation.

Keywords: Food, Genetically Modified Organisms, Ghana, Plant Breeders' Rights, TRIPS Agreement, UPOV Convention.

## Introduction

Food remains a critical commodity for life. Often coexisting in developing countries with under-nutrition, obesity, which may occasionally be caused by extreme food consumption, is mostly a complex health concern in developed countries.<sup>1</sup> Recent literature suggests that there exists today a triple concern, which is the triple burden of malnutrition, of which the first tier consists of deficiencies in dietary energy intake, estimated by Food and Agriculture Organisation (FAO) to affect some 795 million people worldwide.<sup>2</sup>

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<sup>1</sup> Paul Campos, Abigail Saguy, Paul Ernsberger, Eric Oliver and Glenn Gaesser, “The Epidemiology of Overweight and Obesity: Public Health Crisis or Moral Panic?” (2006) 35 *International Journal of Epidemiology* 1, 55 at 57, claiming that the data linking overweight and obesity to adverse health outcomes are well established and incontrovertible.

<sup>2</sup> “The State of Food Insecurity in the World 2013: The Multiple Dimensions of Food Security” (Rome, FAO, IFAD and WFP. 2015). Available at: <<http://www.fao.org/3/a-i4646e.pdf>> [Accessed 2 April 2016] at 8.

A second level burden in the form of nutrient deficiencies, such as iron, iodine and vitamin A, which affect some two billion people.<sup>3</sup> Notably, a third layer burden from the rapidly growing number of people who are overweight, estimated by the World Health Organisation at 1.9 billion adults (35 percent of the world's adult population) in 2008, of which 500 million (11 percent) were obese.<sup>4</sup> These three categories overlap: both calorie deficiencies and obesity can co-exist with nutrient deficiencies, while nutrient deficiencies can occur in people who have an appropriate calorie intake.<sup>5</sup>

Nonetheless, the implications of the foregoing classes improve our understanding of the importance of nutrition.<sup>6</sup> The 2016 Global Nutrition report was very clear on this viewpoint by observing that obesity and overweight, far from declining, are on the rise, putting global nutrition milestones at risk.<sup>7</sup> The report, which was produced by an Independent Expert Group empowered by the Global Nutrition Report Stakeholder Group conceived that malnutrition and poor diets constitute the number-one driver of the global burden of disease.<sup>8</sup> They concluded that the annual GDP losses from low weight, poor child growth, and micronutrient deficiencies average 11 percent in Africa.<sup>9</sup>

By virtue of this, most expectations would be that all people should at least have adequate access to food, and such a principle would have the merit of saving lives. However, this premise is being undermined. As already highlighted, in the report by the FAO on the state of food insecurity in the world, gloomy empirical data is presented that shows undernourishment and poor progress towards the Millennium Development Goals (MDGs).<sup>10</sup> The report estimates that one in nine, are suffering from chronic hunger.<sup>11</sup>

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<sup>3</sup> Micronutrient Deficiencies: Iron Deficiency Anaemia. World Health Organisation. Available at: <<http://www.who.int/nutrition/topics/ida/en/>> [Accessed 1 June 2016].

<sup>4</sup> WHO Fact Sheet No. 311, Updated January 2015. Available at <<http://www.who.int/mediacentre/factsheets/fs311/en/>> [Accessed 1 June 2016].

<sup>5</sup> *Id.*

<sup>6</sup> High Level Panel of Experts on Food Security and Nutrition (Note on Critical and Emerging Issues for Food Security and Nutrition Prepared for the Committee on World Food Security, 6 August 2014) at para. 7.

<sup>7</sup> Global Nutrition Report 2016: From Promise to Impact: Ending Malnutrition by 2030 (Washington, D.C., International Food Policy Research Institute, 2016) at xx.

<sup>8</sup> *Ibid.* at xviii.

<sup>9</sup> *Id.*

<sup>10</sup> The United Nations General Assembly Resolution 55/2 validated the MDGs on 18 September 2000.

<sup>11</sup> "The State of Food Insecurity", *supra* note 2, at 8, citing 795 million people out of the 7.1 billion in the world are seriously undernourished in developing countries.

Consequently, in 2015, the UN Sustainable Development Goals enshrined the objective of “ending all forms of malnutrition,” challenging the world to think and act differently on malnutrition—to focus on all its faces and work to end it, for all people, by 2030.<sup>12</sup> This move is relevant, as at least 12 of the 17 Sustainable Development Goals contain indicators that are highly relevant for nutrition, reflecting nutrition’s central role in sustainable development.<sup>13</sup> While the report notes that, since 1990, Ghana has made dramatic reduction in malnutrition,<sup>14</sup> generally in the context of Africa the number of hungry people grew from 175 million to 239 million between 2010 and 2012.<sup>15</sup>

This indicates that, on average, 20 million people are added every year.<sup>16</sup> This trend confounds logic given that the number of underfed people in other regions is constantly decreasing.<sup>17</sup> Unexpectedly, while Ghana, which uses virtually no genetically modified organisms (GMOs) in agriculture but only traditional farming, met its 2015 MDG hunger target by 2000/2002, and was well on track in meeting its MDG poverty target before 2015,<sup>18</sup> a country like Burkina Faso which uses GMOs in agriculture have failed to reduce hunger to an appreciable degree, as it could not meet its MDG targets by the 2015 deadline agreed by the United Nations (UN).<sup>19</sup>

The Food and Agricultural Organisation (FAO) produces another excellent report on the state of the world’s agriculture, twice a year, called the Food Outlook (FO). In 2010, the FO revealed startling figures indicating that the totality of global food imports is expected to reach USD \$1.026 trillion, with all food categories likely to register double-

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<sup>12</sup> Transforming Our World: The 2030 Agenda for Sustainable Development (United Nations General Assembly Resolution: A/RES/70/1, Seventieth session Agenda items 15 and 116, 4th plenary meeting, 25 October 2015) paras. 3. See Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture. *Ibid.* at 15/35.

<sup>13</sup> *Ibid.* Global Nutrition Report 2016, at xix.

<sup>14</sup> *Ibid.* Global Nutrition Report 2016, at xx. See also “The State of Food Insecurity”, *supra* note 2, at 29.

<sup>15</sup> *Ibid.* at 10, observing that Africa remains the region with the highest prevalence of undernourishment, with just under one in every four people, or 23.2 percent of the population, is estimated to be undernourished in 2014–16.

<sup>16</sup> *Id.* see Figure 4, at 14.

<sup>17</sup> *Ibid.* at 15. See also, suggesting that Africa as a whole, and sub-Saharan Africa in particular, will not achieve the MDG 1c target.

<sup>18</sup> *Ibid.* at 32 and 29, Box 1. Ghana: economic growth with improved food security and nutrition.

<sup>19</sup> *Ibid.* at 45, Annex 1, Table A1 for data on Burkina Faso’s progress. See generally, Jeffrey Vitale, Gaspard Vognan, Marc Ouattarra, and Ouola Traore, “The Commercial Application of GMO Crops in Africa: Burkina Faso’s Decade of Experience with Bt Cotton” (2010) 13 *AgBioForum* 4, 320 at 330, observing that the benefit distribution of using agro-biotechnology has increase national income of US\$ 30.94 million per year.

digit percentages.<sup>20</sup> Nevertheless, countries that are unable to produce sufficient amounts of their own food have no option but to rely on food imports. Whereas this is good news for developed countries that have sustainable capacity to export foodstuffs, it also advances the undesirable proposition that developing who are largely importers are set to transfer huge financial resources to developed countries in an attempt to fight hunger.<sup>21</sup>

The common view is that GMOs in agriculture are an increasingly important driver for food security. This is ordinarily the position, and notably, technology covering plant genetic resources in agriculture are rapidly advancing towards a global centre-stage. A major instrument also known to incentivise technology developers to recoup costs of investments is intellectual property rights (IPRs).<sup>22</sup> In this regard, international trade has been a defining push for technology development.<sup>23</sup> In contrast to this trend, the benefits of all the many historical advances in technology originating from developed countries have not been equally spread.

As a result, the acceleration in the rate of technological change and the pre-requisites necessary to participate effectively in food production are making it more difficult for developing countries to fight hunger. IP, which is also known to enhance competitiveness, similarly impacts on all aspects of life. However, the social impact of IPRs remains contested given that literature concerning the concept is still vast, twisting, inconclusive and controversial. The justification for IPRs is broader and includes a central strand presumed to encourage technology development and its dissemination.<sup>24</sup> While proponents of this view see IP protection as a critical component for economic

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<sup>20</sup> “Food Outlook: Global Information and Early Warning System on Food and Agriculture” (Rome, New York: Food and Agriculture Organisation, November 2010) at 112.

<sup>21</sup> Manitra Rakotoarisoa, Massimo Iafrate and Marianna Paschali, “Why has Africa become a net food importer?: Explaining Africa Agricultural and Food Trade Deficits” (Rome, New York: Trade and Markets Division Food and Agriculture Organization of the United Nations, 2011) at 5, reporting that Africa’s food imports have reached a record high of US\$ 47 billion yielding a deficit of about US\$ 22 billion.

<sup>22</sup> Suzanne Scotchmer, “*Innovation and Incentives*” (Cambridge MA: The MIT Press, 2004) at 53, establishing that one of the most sustained efforts to address the concept of economic growth in developing countries is the advancement of innovation, and IP plays a crucial role towards economic growth.

<sup>23</sup> The TRIPS Agreement, 15 April 1994. Annex 1 C Legal Instrument-Result of the Uruguay Round volume 31, 13 I.L.M (1994) at Preamble, *recognising* the underlying public policy objectives of national systems for the protection of intellectual property, including developmental and technological objectives.

<sup>24</sup> *Ibid.* Article 7 of TRIPS contains the objectives of the TRIPS Agreement.

growth,<sup>25</sup> opponents ignore such a notion, and often typify it as a tool for protectionism.<sup>26</sup>

Nevertheless, citing IP as the core element of economic growth, whose efficiency aspect lies in effective cross-border trade in technology, has provided a major economic justification that has informed the basis for slotting its regulation into the hands of the World Trade Organisation (WTO).<sup>27</sup> It must be noted that prior to the conclusion of the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS),<sup>28</sup> several countries did not view GMOs in agriculture as a patentable subject matter.<sup>29</sup> In fact, plant genetic resources were freely exchanged on the understanding that they constituted a global public good - a shared norm earmarked to safeguard the dignity of humanity.<sup>30</sup> This was expressed in Article 1 of the International Undertaking on Plant Genetic Resources:

The objective of this Undertaking is to ensure that plant genetic resources of economic and/or social interest, particularly for agriculture, will be explored, preserved, evaluated and made available for plant breeding and scientific purposes. This Undertaking is based on the universally accepted principle that plant genetic resources are a heritage of mankind and consequently should be available without restriction.<sup>31</sup>

However, this is no longer the case as plant genetic resources in agriculture are now subject to the same patentability as other technologies. This idea is within the purview

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<sup>25</sup> Roberto Mazzoleni and Richard Nelson, "Economic Theories About the Benefits and Costs of Patents" (1998) 32 *Journal of Economic Issues* 2, 1031 at 1033, stating the overriding impact of IP on economic growth.

<sup>26</sup> Peter Drahos and John Braithwaite, *Information Feudalism: Who Owns the Knowledge Economy* (London, Sterling VA: Earthscan, 2002) at 35, noting that patents are an important tool of protectionism.

<sup>27</sup> The WTO Agreement: Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, the Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations 4 (1999), 1867 U.N.T.S. 154, 33 I.L.M. 1144 (1994). Gail Evans, "Intellectual Property as a Trade Issue: The Making of the Agreement on Trade Related Aspects of Intellectual Property Rights" (1994) 8 *World Competition* 2, 137 at 148, observing that the previous IP regimes under the Paris and Berne Conventions lacked the necessary remedial provisions to enforce IP in a way deemed reasonable by key developed countries.

<sup>28</sup> Christopher May and Susan Sell, *Intellectual Property Rights: A Critical History* (Boulder, Co: Lynne Rienner, 2006) at 5-8, on the global governance and history of TRIPS.

<sup>29</sup> Graham Dutfield, "Food, Biological Diversity and Intellectual Property: The Role of the International Union for the Protection of New Varieties of Plants (UPOV)" (Geneva-Switzerland: Global Economic Issue Publications, Intellectual Property Issue Paper Number 9: Quaker UN Office, 2011) at 7, noting that before the 1960s, IP protection of plant varieties was uncommon.

<sup>30</sup> Article 1 of the Convention on Biological Diversity of the United Nations Conference on the Environment and Development, June 5, 1992, U.N. Doc DPI/1307, reprinted in 31 I.L.M. 818 (entered into force Dec. 29, 1993).

<sup>31</sup> International Undertaking on Plant Genetic Resources, FAO Res. 8/83, 22nd Sess., U.N. Doc. C/83/REP (Nov. 23, 1983). For additional analysis see Chidi Oguamanam, "Intellectual Property Rights in Plant Genetic Resources: Farmers' Rights and Food Security of Indigenous and local Communities" (2006) 11 *Drake Journal of Agricultural Law* 3, 273 at 283.

of Section 5 of the TRIPS Agreement, which embodies an overriding enforcement provision that patents should be available for any inventions, whether products or processes, in all fields of technology.<sup>32</sup> The TRIPS Agreement is quite exhaustive in most regards, however, only a single sentence refers to patents on plant genetic resources. Article 27.3(b) of TRIPS states, in part, that WTO members must provide protection for plant varieties either through patents or “an effective sui generis system” or by any combination thereof.<sup>33</sup>

Significantly, the principle behind patentable subject matter within the previous TRIPS text indicates that agro-biotechnology also qualifies for patent protection and, therefore, Ghana is under a WTO treaty-obligation to create “effective sui generis” legislation to protect Plant Breeders’ Rights (PBRs). Thus, at first glance, the scope of legal protection within the PBRs appears to be stringent while, in contrast, the patent standard setting under TRIPS seems flexible.<sup>34</sup> Surprisingly, Ghana’s move in this direction is therefore consistent with the International Convention for the Protection of New Varieties of Plants (UPOV Convention).<sup>35</sup> This flies in the face of common sense, since the country is not a member signatory to the UPOV Convention.<sup>36</sup>

In fact, within the scope of Article 36.1(i) of the UPOV Convention, each member state shall adopt regulations consistent with the requirements of the UPOV Convention and submit that legislation to the UPOV Secretariat for review and approval by the UPOV Council. In addition, paragraph (ii) of Article 36.1 even imposes an obligation on member states to notify UPOV subsequent to an amendment to national legislation implementing the UPOV Convention.

The term PBRs is synonymous with Plant Variety Rights (PVRs). Both are often compared with patents but while they are similar in intention they are very different in detail. The controversy surrounding the PBRs Bill that is being pursued by Ghana has assumed extreme proportions as it appears that Parliament intends to allow the granting

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<sup>32</sup> Article 27.1 of TRIPS.

<sup>33</sup> Dutfield, *supra* note 23, at 11.

<sup>34</sup> *Ibid.* at 6, observing that PBRs system is unsuited to the agricultural characteristics of poor countries.

<sup>35</sup> The Convention was adopted in Paris in December 2, 1961. 33 U.S.T. 2703, 815 U.N.T.S. 89 and revised at Geneva on November 10, 1972, on October 23, 1978, and on March 19, 1991.

<sup>36</sup> See a notification by Ghana’s Attorney General contained in Document C/46/19 seeking UPOV Council confirmation on the conformity of Ghana’s PBRs draft bill to the UPOV Convention during the Forty-Seventh Ordinary Session of the UPOV Council Geneva, October 24, 2013: C/47/18). Available at: [http://www.upov.int/edocs/mdocs/upov/en/c\\_47/c\\_47\\_18.pdf](http://www.upov.int/edocs/mdocs/upov/en/c_47/c_47_18.pdf) [Accessed 20 April 2016] at Annex 1.

of legal protections which will arguably protect the rights of scientists and private corporations seeking to develop and commercialise GMOs in native species of seeds and crops – a system that has historically not been the subject of legal protection.<sup>37</sup>

In exploring this complex issue, this paper aims to contribute to a recently active line of enquiry on the topic by examining the empirical consequences of stringent legislation on PBRs in the absence of adequate safeguard measures to protect public interests. One crucial question addressed by this paper is whether or not a specific measure, or targeted safeguard measures, within the global IP landscape can be invoked to protect public interests. Consequently, the hypothesis of this paper rests on the argument that every system needs checks and balances and the legislative system is no exception. Therefore, social policy matters must be integrated into the so-called PBRs Bill in order not to undervalue public interests. To conclude, this paper will construct a counterfactual balance that ought to be found on the path to promulgating such legislation.

In proving the hypothesis, this paper will frame its analysis around three sections. Section One reviews both the opinions of proponents and critics on GMOs in agriculture, specifically the general controversy surrounding Clause 23 of Ghana's PBRs under consideration in Parliament. Section Two attempts to evaluate the legislative overlap between PBRs under UPOV and patents in the TRIPS Agreement on a pattern previously noted in empirical literature. Section Three assesses the general landscape of the reasonable requirements of patent protection under the TRIPS Agreement; it also examines the flexibilities built into TRIPS with a view to presenting Ghana policymakers with social policy alternatives that could maintain a statutory balance on PBRs in order not to undervalue public interests.

## **Section One**

### **1.0 The Controversy of GMOs in Agriculture**

#### **1.1 The Backlash: Clause 23 of the Ghanaian PBRs Bill**

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<sup>37</sup> See Ghana's PBRs draft copy at [http://media.peacefonline.com/docs/201312/919280493\\_445860.pdf](http://media.peacefonline.com/docs/201312/919280493_445860.pdf) [Accessed 10 April 2016]

One major justification for the introduction of the PBR system in Ghana like many developing countries is to provide a legal framework that will serve as a bait for private sector investment in agricultural research and plant breeding activities.<sup>38</sup> The move to create legislation on PBRs in Ghana has created a heated debate, with some viewpoints questioning the fundamental wisdom and safety of GMOs in agriculture.<sup>39</sup> Farmers, labour unions, religious groups, and political and civil society organisations since 2014 have taken to the streets to demonstrate against the adoption of the PBRs Bill that is before the Ghanaian Parliament.<sup>40</sup>

Critics are concerned that the Bill, as it stands, contains clauses that have serious implications on the sovereignty of the Ghanaian people, including unacceptable limitations on the policy space it leaves for the state to regulate the activities of plant breeders vis-à-vis measures to protect public interests and the natural environment.<sup>41</sup> Some also argued that Bill is designed to impose GMSs into Ghana's food chain, a move that could change the entire agricultural supply system. Far from simply dealing with the rights of the plant breeder, the Bill is designed to pre-empt the laws of Ghana and prevent farmers from freely saving, using, and sharing seed from season to season as they have always done.

The ultimate result of the bill will be to put Ghana's food supply into the hands of foreign corporations. Consequently, a coalition of civil society organisation is resisting the passage of the Bill into law.<sup>42</sup> In particular, Clause 23 on "measures regulating commerce" has been the key bone of contention. This provision is carefully worded to reflect Article 18 of the UPOV Convention,<sup>43</sup> although Ghana is not a member of the

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<sup>38</sup> Hillary Mireku Bortey and Flora Mpanju, "Adoption of Plant Breeders' Rights System: Perceived Implication for Food, Seed Security and Sovereignty in Ghana" (2016) 21 *Journal of Intellectual Property Right* 2, 96 at 100.

<sup>39</sup> Jennifer Ferrara and Michael Dorsey, '*Genetically Engineered Foods: A Minefield of Safety Hazards*'. In Brian Tokar (ed.), *Redesigning Life? The Worldwide Challenge to Genetic Engineering* (London: Zed Books, 2001) at 51.

<sup>40</sup> See Petition to Parliament on the Plant Breeders' Bill, 2013. Available at: <<http://foodsovereigntyghana.org/petition-to-parliament-on-the-plant-breeders-bill-2013/>> [Accessed 12 April 2016].

<sup>41</sup> Food Sovereignty Ghana. Available at: <<http://foodsovereigntyghana.org/>> [Accessed 1 June 2016].

<sup>42</sup> See Seed Freedom. Available at: <<http://seedfreedom.info/author/food-sovereignty-ghana/>> [Accessed 1 June 2016].

<sup>43</sup> Article 18 of the UPOV Act 1991 reads:

The breeder's right shall be independent of any measure taken by a Contracting Party to regulate within its territory the production, certification and marketing of material of varieties or the importing or exporting of such material. In any

UPOV Convention.<sup>44</sup> It states that: “A plant breeder right shall be independent of any measure taken by the Republic to regulate within Ghana the production, certification and marketing of material of a variety or the importation or exportation of the material”.<sup>45</sup>

The majority of critics are deeply troubled by the thought that, without amendments, the Bill facilitates bio-piracy in that it does not require a breeder to disclose the origin of the genetic material used to develop the variety it wishes to protect and neither does it provide mechanisms for prior informed consent, access and benefit sharing.<sup>46</sup> Furthermore, some are alarmed that not only will the Bill lead to erosion of crop diversity, and thus, reduce resilience to threats such as pests, disease or climate change, significantly, the Bill sets up a legal framework for commercial breeders – most of whom are likely to be foreign entities – to use local germplasm to develop varieties that are then exclusively appropriated by such breeders.

Further concerns are that the Bill hinders Ghana’s ability to fulfil its commitments under the International Treaty on Plant Genetic Resources for Food and Agriculture (IT PGRFA), commonly known as the International Seed Treaty.<sup>47</sup> This treaty aims at guaranteeing food security through the conservation, exchange and sustainable use of the world’s plant genetic resources for food and agriculture, as well as the fair and equitable benefit sharing arising from its use, in particular, the recognition of farmers rights to freely access genetic resources unrestricted by IPRs.<sup>48</sup>

Opponents specifically question the absence of any legislation that will realise, protect, and promote farmers’ rights, including the right to save, use, exchange and sell farm-saved seed and other propagating material, and to participate in decision-making

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case, such measures shall not affect the application of the provisions of this Convention.

For example, see “A notification by Ghana’s Attorney General”, *supra* note 36.

<sup>44</sup> Members of the UPOV Convention: Status on April 15, 2016. Available at: <<http://www.upov.int/export/sites/upov/members/en/pdf/pub423.pdf>> [Accessed 1 June 2016]. See Thaddeus Manu, “Self-Defeating Reasons for Signing the African Growth and Opportunity Act: Analysing the Pressure on African Countries to Enact UPOV Convention - Plant Breeders’ Rights as Opposed to Effective Sui Generis Regimes under TRIPS” (2015) 44 *Common Law World Review* 1, 3 at 5, stating that many countries in Africa are not members of the UPOV Convention.

<sup>45</sup> See text at *supra* note 37.

<sup>46</sup> Food Sovereignty Ghana. Available at: <<http://foodsovereigntyghana.org/reject-clause-23-a-monsanto-law-to-subjugate-ghana/>> [Accessed 1 June 2016].

<sup>47</sup> The UN Food and Agriculture Organisation Resolution 3/2001, Rome, 3 November 2001.

<sup>48</sup> *Ibid.* Article 1.

regarding, and in the fair and equitable sharing of, the benefits arising from the use of plant genetic resources for food and agriculture.<sup>49</sup> Simply put, activists contend that genetically manipulated food is not only a health hazard but, significantly, it also remains a threat to the economic and food sovereignty of the country.<sup>50</sup>

Critics take the view that Ghana will eventually have to depend on certified seeds invented by multinational corporations (MNCs) and other private seed producers, thus surrendering Ghana's food sovereignty to often-greedy private organisations.<sup>51</sup> This logic appears to be based in ethical reasoning but it also ignores the presumption that GMOs in agriculture may be used beneficially as an integral part of a comprehensive agricultural development strategy to ensure food security and contribute to economic growth in the country.<sup>52</sup>

In another development, an Accra Fast Track High Court on the 17th February 2015 halted the production and sale of GMOs in Ghana.<sup>53</sup> This follows a writ of summons against the Ghanaian National Biosafety Committee and the Ghanaian Ministry of Food and Agriculture by Ghanaian civil society organisation, Food Sovereignty Ghana (FSG) with an application for an interim injunction to stop any release or commercialisation of GMOs until the provisions of Ghana's Biosafety Act are expressly and fully obeyed.<sup>54</sup> FSG's case is very simple. According to Section 13 of the Biosafety Act, 2011, Act 831, on the "The application to import or place on the market", only the National Biosafety Authority has such a power to authorise the commercial release of GM foods in Ghana. Article 13 of the law that:

(1) A person shall not, without the prior written approval of the Authority, import or place on the market a genetically modified organism. (2) An application under subsection (1) shall include (a) The information set out in the Third Schedule (b) a risk assessment as set out in the Third Schedule, and (c) any other information that the applicant

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<sup>49</sup> Manu, *supra* note 44 at 6, stating that agro-biotechnology should be held as a public good for common good of humanity.

<sup>50</sup> Ferrara and Dorsey, *supra* note 39. See also Dutfield, *supra* note 29 at 5, stating that PVRs can affect agricultural policy, food security, rural development, economic development, biodiversity, genetic resource conservation, and human rights.

<sup>51</sup> "Food Sovereignty Ghana", *supra* note 42.

<sup>52</sup> Bortey and Mpanju, *supra* note 38 at 100.

<sup>53</sup> Food Sovereignty Ghana. Available at: <<http://foodsovereigntyghana.org/court-orders-temporary-halt-on-gm-commercialization/>> [Accessed 1 June 2016].

<sup>54</sup> Ghanaian Government Sued over "Illegal" GM Crops Policy (Sustainable Pulse, 10 February 2015). Available at: <<http://sustainablepulse.com/2015/02/10/ghanaian-government-sued-illegal-gm-crops-policy/#.V06D2pMrJE5>> [Accessed 1 June 2016].

may consider necessary for an assessment of the potential risks and benefits of the requested activity.<sup>55</sup>

Surprisingly, Parliament has brought this bill to the Consideration Stage without any public participation or awareness.<sup>56</sup> Importantly, Ghana is a signatory state to the Cartagena Protocol on Biosafety to the Convention on Biological Diversity adopted on 29 January 2000 and entered into force on 11 September 2003.<sup>57</sup> This Treaty has an interesting objective.<sup>58</sup> It requires parties, on their own and in cooperation with other states and international bodies, to promote and facilitate public awareness and education, including access to information, regarding the safe transfer, handling and use of living modified organisms.<sup>59</sup> Additionally, it also obliges parties to consult the public in the decision-making process, to make public the final decision taken and to inform public about the means of access to the Biosafety Clearing-House.<sup>60</sup>

Meanwhile, Section 11 (1) of the Biosafety Act states very clearly that: ‘A person shall not conduct a contained or confined use activity involving genetically modified organisms or their development without the written approval of the Authority’. The law further stipulates in Section 42 (2) that, ‘The Authority shall publish notices of final decisions concerning applications made under this Act in the Gazette and electronic and print media, in order to ensure public awareness and participation’. This law has not been followed by the Ghanaian authorities, which have created a veil of secrecy surrounding the experiments currently going on in Ghana, according to FSG.

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<sup>55</sup> Court Dismisses GMO Case (Ghanaweb Business News, 30 October 2015). Available at: <<http://www.ghanaweb.com/GhanaHomePage/economy/artikel.php?ID=390841>> [Accessed 1 June 2016].

<sup>56</sup> Ghana: Publish Report On ‘Consultations’ Over Plant Breeder’s Bill’ (All Africa, 31 March 2016). Available at: <<http://allafrica.com/stories/201604180666.html>> [Accessed 1 June 2016].

<sup>57</sup> 2226 U.N.T.S. 208; 39 ILM 1027 (2000); UN Doc. UNEP/CBD/ExCOP/1/3, at 42 (2000). Ghana ratified the Treaty on 30 May 2003, Accession 11 September 2003. Available at: <<https://bch.cbd.int/about/countryprofile.shtml?country=gh>> [Accessed 1 June 2016].

<sup>58</sup> Article 1 provides that:

In accordance with the precautionary approach contained in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Protocol is to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements.

<sup>59</sup> Article 23: Public Awareness and Participation.

<sup>60</sup> *Ibid.* Article 23(3).

## 1.2 A Reasonable Perspective on Misleading Facts on GMOs

In the pitched debate over GMO in agriculture, it can be hard to see where scientific evidence in favour ends and resistance-riddled philosophical assumptions begin. This is because in this kind of unconstructive setting, both believers and sceptics alike have vastly different but often prejudiced opinions founded on widely divergent facts and compelling theories. The sharp, deepening divide appears to be exacerbated by differing shades of opinions that are based much more on ideological arguments than anything else.

Perhaps, this ongoing controversy shows that complicated truths have long been obscured by stern rhetoric given that the blame game continues to shift and myths spread to inflame debates. Notably, many of the most important historical advances in technology have occurred when government legal powers set the programmes that enjoin the scientific community to develop technologies for the public good. However, the danger is when governments are misled into thinking that every technology is in the interests of its people, in particular, developing country governments that lack adequate institutional technical capacities and human-resourced based aspects to understand complex scientific knowledge.<sup>61</sup>

Many observers, including the UN, are working on the presumption that MNCs already have increasing power over the supply of food as well as the exercise of great control over laws and policies that broaden their interests and strengthen their legal position.<sup>62</sup> This control, if exerted can result in looser regulation in the interest of the public with its attendant negative impacts on not only the price and quality of food at the national level but also health and safety of the public could be exposed to detriments.<sup>63</sup>

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<sup>61</sup> Manu, *supra* note 44 at 8, stating that the account of advocates is rooted in economic case rather than anything else.

<sup>62</sup> Helena Paul, Ricarda Steinbrecher, Devlin Kuyek and Lucy Michaels, *Hungry Corporations: Transnational Biotech Companies Colonise the Food Chain* (London, New York: Zed Books, 2003) chapter 5 at 9, claiming that private companies hold tremendous influence over agricultural policy in Africa and by accepting IPRs on biodiversity they legitimise them. Citing World Bank as saying 'politicians can be loath to change seed regulations without support from at least some national experts, including crop scientists and other agricultural experts'.

<sup>63</sup> UN General Assembly Resolution A/58/330, (Fifty-eighth session, Item 119(b) of the provisional agenda, 28 August 2003). Available at:

<<http://www.righttofood.org/wp-content/uploads/2012/09/A58330.pdf>> [Accessed 14 March 2016] para. 28.

It is on this basis that critics believe that industry should not be allowed to influence standard-settings through the conduit of law. Any changes, if they occur, must be part of a process of adjusting values and beliefs that are ongoing in all societies as opposed to anything premised on the commercial intent of private corporations.<sup>64</sup> According to Ubalua, one such industry that is set to modify tradition is the agro-biotechnology industry. He claims that this move has helped to put a focus on scientists who until recently have been regarded as trustworthy and ethically sound.

He further takes the view that commercially oriented scientists pursuing “pharmaceutical food” have somewhat tainted the respect accorded to scientists for advancing technologies meant to stimulate change that runs counter to existing values and systems in traditional concepts of nature and human identity.<sup>65</sup> This claim seems to be consistent with a commonly held view that transformation of human needs should not be defined only on the basis of scientific analysis but occasionally on moral imperatives.

Anti-GMOs advocates in agriculture worry that people who eat GM foods may be more prone to allergies or diseases resistant to antibiotics.<sup>66</sup> Admittedly, this criticism may or may not be well-founded, particularly in light of the fact that scientific data on this is strictly inconclusive. Nevertheless, it is claimed by the critics of GMOs in agriculture that intense activity in plant genetic resources is reckless and capable of undermining human values in the absence of any proper laws to protect nature – a technology often pursued within the commercial setting to defeat mankind’s environment rather than to solve extreme hunger.<sup>67</sup>

This objection also rests on the fundamental understanding that plants contain ethically sensitive genes that could be susceptible to abuse if they became the subject of

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<sup>64</sup> Plant Biotechnology and Global Food Production: Trade Implications (Washington D.C.: International Policy Council on Agriculture, Food and Trade Position Paper No. 7, 1998) at 9.

<sup>65</sup> Alfred Ubalua, “Transgenic Plants: Successes and Controversies” (2009) 6 *Biotechnology and Molecular Biology Reviews* 6, 118 at 120.

<sup>66</sup> *Ibid.* at 7.

<sup>67</sup> *Ibid.* at 8. See also Klaus Bosselmann, “Plants and Politics: The International Legal Regime concerning Biotechnology and Biodiversity”, (1996) 7 *Colorado Journal of International Environmental Law and Policy* 1, 111 at 113, providing evidence that twenty-seven million acres of tropical forests-which are home to a majority of the world’s biodiversity-are destroyed each year.

legislation.<sup>68</sup> In line with this, some note that if GMOs in agriculture were liberally encouraged, commercial opportunities offered through control of the agro-biotechnology would restrict access and distribution, and this could putatively raise the price of food, thus making food less affordable for the poorest given that it would be based on exclusive rights of IPRs.<sup>69</sup>

This assertion, in particular, has led pessimists to further question an array of IP rules which are often founded solidly on export-oriented profit intentions, in which for-profit corporations look out for their own financial interests within the confines of legislation and to the detriment of society.<sup>70</sup> By this, Dutfield contends that the plant variety protection (PVP) system is unsuited to the agricultural characteristics of developing countries.<sup>71</sup> The United Nations arrived at similar findings. It found that IP-related exclusive rights could cause poor farmers to become increasingly dependent on expensive inputs and at risk of indebtedness.<sup>72</sup> To this end, detractors take the radical position that society, which has often been shaped by humane values, is gradually realigning itself with economic fundamentals.<sup>73</sup> Significantly, this is what opponents of GMOs in agriculture are really against and, as such, they have tried to create awareness within the general public as to the adverse effects that may accompany the adoption of agro-biotechnology.<sup>74</sup>

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<sup>68</sup> Patrick Mooney, *Seeds of the Earth* (Canadian Council for International Cooperation, Ottawa, and the International Coalition for Development Action: London, 1980) at 69, observing that the legal requirements of PBR encourages phenotypic uniformity which increases crop vulnerability and eliminates varieties often lost to humanity.

<sup>69</sup> William Lesser, Gesa Horstkotte-Wessler, Uma Lele and Derek Byerlee, *Intellectual Property Rights, Agriculture and the World Bank*. In *Intellectual Property Rights in Agriculture: The World Bank's Role in Assisting Borrower and Member Countries* (eds.) Uma Lele, William Lesser and Gesa Horstkotte-Wessler (Washington D.C.: The World Bank, 2000) at 9.

<sup>70</sup> Paul, *et al*, *supra* note 62 and the text accompanying.

<sup>71</sup> Dutfield, *supra* note 29 at 6.

<sup>72</sup> UN General Assembly Resolution A/58/330, (Fifty-eighth session, Item 119(b) of the provisional agenda, 28 August 2003) at 11, para. 29.

<sup>73</sup> High Level Panel of Experts on Food Security and Nutrition (Note on Critical and Emerging Issues for Food Security and Nutrition Prepared for the Committee on World Food Security, 6 August 2014) para. 4, finding Agriculture is increasingly part of the global economy and international trade, which are increasingly influenced by global financial markets and production decisions. See Biswajit Dhar, *Sui Generis Systems for Plant Variety Protection: Options Under TRIPS* (A Discussion Paper Commissioned by the Quaker United Nations Office (QUNO), Geneva, 2002) at 7, finding that pressures to expand IPP in agriculture have built up globally over the past few decades as private interests have expanded their operations in plant breeding.

<sup>74</sup> Dutfield, *supra* note 29 at 18, claiming that PVRs systems carry the potential to undermine other public interest objectives, such as by limiting countries' policy space to protect the interest of small-scale farmers, traditional knowledge.

### 1.3 Are GMOs in Agriculture a Solution to Hunger?

MNCs are working harder than ever to put out a corpus of literature that advances their financial interests. It is not surprising to see several industry-tilted studies suggesting that GMOs in agriculture remain critical for future food security of developing countries.<sup>75</sup> There is a paucity of high-quality evidence on which to base a comparison of relative claims that favours a proposition that GM engineering is being pursued by MNCs for the common good of humanity rather than a means to cement their commercial interests.

In fact, it appears that advocates are overstating the impact of GMOs in agriculture as a fundamental answer to hunger.<sup>76</sup> Their viewpoints seems to support the baseless concept that global food security lies in GMOs. This position is sometimes highly ambiguous and, probably the more pertinent concern about GMOs in agriculture is not related to food security as articulated by its advocates but rather the use of IP as a mechanism to create commercial incentives for MNCs in developed countries.<sup>77</sup>

The extent to which GMOs would negatively affect food security in Ghana is not immediately clear-cut given that the empirical evidence to validate this point of view is currently lacking. However, by grounding the analysis on the general principles applicable to IP protection under the concept of stringent exclusive rights, it can be argued that patents on plant varieties would hurt farmers in that they would not allow them to use saved seed or that of protected varieties.<sup>78</sup>

What discredits the foregoing conflicting stance further is an overlooked but extremely essential argument built on the presumption that, whereas malnutrition is killing millions of people in developing countries, huge metric tons of foodstuffs are wasted and thrown

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<sup>75</sup> Barry Greengrass, *UNCTAD Expert Meeting on Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices: Plant Variety Protection and the Protection of Traditional Knowledge* (Geneva: 30 October – 1 November 2000) at 2, para. 2, claiming that the granting to a breeder of a new variety the exclusive right to exploit his variety both encourages him to invest in plant breeding and contributes to the development of agriculture, horticulture and forestry.

<sup>76</sup> Pamela Ronald, “Plant Genetics, Sustainable Agriculture and Global Food Security” (2011) 188 *Genetics Society of America* 1, 11 at 16, claiming that genetically engineered crops currently on the market indicate that such crops have contributed to enhancing global agricultural sustainability.

<sup>77</sup> *Ibid.* Ferrara and Dorsey *supra* note 31..

<sup>78</sup> Dutfield, *supra* note 29 at 4, explaining that PVP is one type of IP right, alongside others like patents, copyright and trademarks.

away in developed countries.<sup>79</sup> It seems to be much more the case that advocates of GMOs in agriculture have failed to address the principal issue about how the world could fight hunger. Till date, the most authoritative report pursuant to poverty and hunger is the 1986 study commissioned by the World Bank.<sup>80</sup>

This report is still relevant today, as its findings support the contention that income inequality is the main issue.<sup>81</sup> In other words, in reality, there is still not enough evidence to dismiss the proposition that the existing global resources, if equitably distributed, could overcome hunger without the need for GM engineering-related technology in agriculture.<sup>82</sup> The fundamental issue in this position is that both developed countries and developing countries have a differing understanding about the IP landscape and the need for their protections.

While developing countries predominantly view knowledge as a community good, developed countries see it as a private commodity for extracting profit; as a result, both cannot pursue IP for the same practical ends.<sup>83</sup> With PBRs, the breeder can choose to become the exclusive marketer of the variety or to license the variety to others or generally prohibit making, using or selling the patented invention.<sup>84</sup> This is generally the position of IP leverage. Breeders can bring a suit to enforce their rights and can recover damages for infringement as provided in Article 30.1(i) of the UPOV 1991 Act which obliges member states to provide for appropriate legal remedies for the effective enforcement of breeders' rights.

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<sup>79</sup> Global Food Losses and Food Waste – Extent, Causes and Prevention (Rome, FAO and WFP, 2011) at v, finding that one-third of food produced for human consumption is lost or wasted globally, which amounts to about 1.3 billion tons per year. See also Save Food. Global Initiative on Food Loss and Waste Reduction. Available at: <<http://www.fao.org/save-food/en/>> [Accessed 1 June, 2016], finding that each year 1.3bn tonnes of food, about a third of all that is produced, is wasted, including about 45 percent of all fruit and vegetables, 35 percent of fish and seafood, 30 percent of cereals, 20 percent of dairy products and 20 percent of meat.

<sup>80</sup> *Poverty and Hunger: Issues and Options for Food Security in Developing Countries* (Washington DC., The World Bank, 1986).

<sup>81</sup> *Ibid.* at 13, stating that food is abundant worldwide, and nations with the means to buy it have no problem acquiring all they need.

<sup>82</sup> *Id.*

<sup>83</sup> Drahos and Braithwaite, *supra* note 26, at 121 explaining that the existing IP regime is excessively tilted towards the interests of developed countries rather than developing countries. To explain why this so, Drahos claims it's because developing countries do not set standards and in fact, the international movement of IP standards have been exported mainly from developed to developing countries. See Peter Drahos, "Developing Countries and International Intellectual Property Standard-setting" (Study Paper 8: Commission on Intellectual Property Rights: London, 2002) at 7.

<sup>84</sup> Article 14.1 of the UPOV 1991 Act.

The issue is that farmers' seed systems among developing countries have largely been based on a conventional method where seed supply requirements are met through non-commercial exchanges between farmers.<sup>85</sup> The traditional system allows them to limit the cost of production by preserving a certain degree of independence from the commercial seed sector.<sup>86</sup> The system of unfettered exchange in farmers' seed schemes ensures the free flow of genetic materials, thus contributing to the development of locally appropriate seeds and to the diversity of crops.<sup>87</sup>

In addition, these varieties are best suited to the local terrains or environments in which they are used. They result in reasonably good yields without having to be combined with other inputs such as chemical fertilizers. Moreover, because they are not uniform they may be more resilient to weather-related events or to attacks by pests or diseases.<sup>88</sup> This system, which has operated for a very long time as part of developing countries cultural orientation, is under threat. The UN Special Rapporteur on the Right to Food, Olivier De Schutter, came to similar findings, i.e., that apart from IP-related exclusive rights capable of causing poor farmers to become "increasingly dependent on expensive inputs," they are also at risk of indebtedness.

Further, the system risks neglecting poor farmers' needs in favour of agribusiness needs, in the event jeopardising traditional systems of seed saving and exchange, and losing biodiversity to "the uniformisation encouraged by the spread of commercial varieties".<sup>89</sup> This is in direct contrast to Article 9.2(a) of IT-PGRFA, on the right to protect traditional knowledge relevant to plant genetic resources for food and agriculture. Also,

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<sup>85</sup> Stephen Biggs and Edward Clay, 'Sources of Innovation in Agricultural Technology' (1981) 9 *World Development* 4, 321 at 323, stating that:

Farmers select by identifying and using plants of economic importance, continually retaining and reusing seed, and propagating material with preferred characteristics ...The farmer is not moving iteratively towards some optimal point, but is only able to stay in dynamic equilibrium with his environment by continuous innovation.

<sup>86</sup> Dhar, *supra* note 73 at 25, observing that the expansion of the IPR regime in agriculture tends to create a market for seeds and other planting material that is dominated by a few large companies.

<sup>87</sup> *Id.*

<sup>88</sup> UN General Assembly Resolution A/64/170 on "Seed Policies and the Right to Food: Enhancing Agrobiodiversity and Encouraging Innovation" (Sixty-fourth session Item 71(b) of the provisional agenda, 23 July 2009) at 15-15, para. 42. See also "UN General Assembly Resolution A/58/330", *supra* note 72, at para. 29.

<sup>89</sup> *Ibid.* at 2.

Article 9.3 of the same provides the right to save, use, exchange and sell farm-saved seed/propagating material.<sup>90</sup>

Additionally, Article 10(c) of the Convention on Biological Diversity (CBD) stipulates that each contracting party shall, as far as possible and as appropriate, protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.<sup>91</sup> Nonetheless, advocates are also busy advancing several theses that support the importance of GMOs in agriculture in its progressive form in spite of the foregoing views that tend to discount the overstated impact of GMOs to reduce hunger. Believers dismiss critics' accounts as palpably false.<sup>92</sup>

This criticism in their view is ill-founded, with one exponent claiming that it 'is most often poorly or not at all substantiated or based on wrong concepts'.<sup>93</sup> They claim that simplistic rejections of GMOs in agriculture along with their opportunities and other benefits associated with the technology seem to be the easiest option for most opponents.<sup>94</sup> Moreover, they believe the credibility of anti-GMOs in agriculture would be greatly enhanced if they could argue on the basis of science and empirical facts rather than the persistent exaggeration and fear-mongering, given that the truth is always formed on the basis of evidence.<sup>95</sup>

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<sup>90</sup> For example, see "Report of the Ad Hoc Technical Expert Group Meeting on the Potential Impacts of Genetic Use Restriction Technologies on Smallholder Farmers, Indigenous and Local Communities and Farmers' Rights" (Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8(J) and Related Provisions of the Convention on Biological Diversity: Third meeting Montreal, 8-12 December 2003 Item 3.1 of the provisional agenda- UNEP/CBD/WG8J/3/1.) at 4, para. 14.

<sup>91</sup> See *supra* note 30 for Convention on Biological Diversity.

<sup>92</sup> Derick Byerlee, "Modern Varieties, Productivity and Sustainability: Recent Experiences and Emerging Challenges" (1996) 24 *World Development* 4, 696 at 697, arguing that the productivity gains realised through the use of improved varieties of seeds make direct or indirect contributions to the sustainability of agriculture.

<sup>93</sup> Bernard Le Buanec, *'Plant Breeding, Biodiversity and Yield Stability'* (FIS/ASSINSEL, Cambridge UK, 1999) at 1.

<sup>94</sup> Barry Greengrass, "UPOV and the Protection of Plant Breeders – Past Development, Future Perspectives" (1989) 20 *International Review of Industrial Property and Copyright Law* 5, 622 at 628. See also Greengrass, *supra* note 75 at 4, para. 8, arguing that the UPOV system for the protection of new plant varieties can be considered as the best-known example of a sui generis system, which meets all requirements for an effective plant variety protection system.

<sup>95</sup> Note that publications like Marie-Monique Robin, "The World According to Monsanto: Pollution, Corruption, and the Control of the World's Food Supply" (New York: The New Press, 2008) and Garry Langer, Poll: Skepticism of Genetically Modified Foods (ABC News, June 19, 2001 Edition). Available at: <http://abcnews.go.com/Technology/story?id=97567&page=1#.T09-xXm3Oho>. [Accessed 14 March 2016] have been critical of the way GMOs in Agriculture are being pursued.

They also assume that the resistance reflects a global editorial failure as there is little empirical support to substantiate a much more complex picture that GM crops are dangerous to human health.<sup>96</sup> The fact is that science and technology has had an enormous impact on human existence, providing numerous innovations that have improved the lives of many. In pointing to scientific evidence rather than ethical outlooks to prove their point, they argue that most studies show genetically modified foods are safe for human consumption.<sup>97</sup> Yet, while this viewpoint appears reasonable to some extent it also overlooks the widely-acknowledged understanding that the long-term health effects are unknown.<sup>98</sup> With this frame of reference, it must be accepted that there may be risks associated with GMOs in agriculture that are unknown today.<sup>99</sup>

## Section Two

### 2.0 The legislative Overlap between PBRs under UPOV and Patents under TRIPS Regime

The most fundamental aspect of patent law is the limited exclusive right granted to patentees to exercise control over who uses inventions, when, and under what terms and conditions licences are granted or sold.<sup>100</sup> Thus, both TRIPS and the UPOV Convention impose an overriding obligation on its members to ensure adequate IP protection for plant varieties. In the context of TRIPS, Article 27(1) is the starting point for outlining the legal provisions that frame the obligation that binds its members to provide patents for inventions in all fields of technology on a non-discriminatory basis.<sup>101</sup>

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<sup>96</sup> Matthew Nisbet and Mike Hume, "Attention Cycles and Frames in the Plant Biotechnology Debate Managing Power and Participation through the Press/Policy Connection" (2006) 11 *The International Journal of Press and Politics* 2, 3 at 19, observing how some newspapers are primary targets of media lobbying by various political actors on GMOs in agriculture.

<sup>97</sup> Society of Toxicology Position Paper, "The Safety of Genetically Modified Foods Produced through Biotechnology" (2003) 71 *Toxicological Sciences* 1, 2 at 3, finding that the process of genetic engineering does not, in itself, create new types of risk. *Ibid.* at 7, stating that it is important to recognise that it is the food product itself, rather than the process through which it is made, that should be the focus of attention. *Id.* The level of safety of current BD foods to consumers appears to be equivalent to that of traditional foods.

<sup>98</sup> *Ibid.* at 3, admitting that there can be unintended (pleiotropic or mutagenic) effects resulting from the insertion of the new genetic material into the host genome. Unintended effects of gene insertion might include an overexpression by the host of inherently toxic or pharmacologically active substances, silencing of normal host genes, or alterations in host metabolic pathways.

<sup>99</sup> Ubulua, *supra* note 65 at 124, explaining that the benefits of gene manipulations in agricultural production has obvious overwhelming potentials but with unconfirmed risks.

<sup>100</sup> Article 28.1 of TRIPS.

<sup>101</sup> Article 27(1) of TRIPS reads:

The common conceptual view under the UPOV Convention is that GM crops, and the IPRs granted to them are no different from the IPRs granted for any usual technologies. In comparison, a condition for the grant of breeder's right is found in Article 5(1)(a) of the UPOV Act 1991.<sup>102</sup> The scope of the legal protection is provided within Article 14(1)(a).<sup>103</sup> The duration of the breeder's right is found in Article 19(2) of the UPOV Act 1991.<sup>104</sup> Notably, in terms of policy UPOV claims that the rights provided by the UPOV system and the patent system under TRIPS are similar.<sup>105</sup>

Thus, if a country decides, within the framework of its overall policy, to opt for either PBRs or patents the legal effect is the same.<sup>106</sup> Gervais, under this thinking asserts a logical proposition, which concludes that a state adopting national legislation in compliance with either the UPOV Act has satisfied its obligations under article 27.3(b).<sup>107</sup> This same conclusion was reached by UPOV in April 2003, following the request by the CBD to the UPOV for comments in the context of the specific IP implications of the "Genetic Use Restriction Technologies" (also known derogatively as 'terminator genes', 'terminator technology' or 'suicide seeds').<sup>108</sup> In the summary of its response, the UPOV notes that:

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Patents shall be available for any inventions, whether products or processes, in all fields of technology... and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.

<sup>102</sup> For example, Section 42(a) of Plant Variety Protection Act: Public Law 91-577, 84 Stat. 1542-1559; Dec. 24, 1970 (as amended: the current amendment is: Public Law 104-127, 110 Stat. 1186, Sec. 913; April 4, 1996). See also Section 97(1) of Regulations and Rules of Practice for Plant Variety Protection [7 CFR, Part 97, as of September 1, 1996] (as amended and the current amendment is: Federal Register - September 16, 2005 (Volume 70, Number 179, 54609-54612)).

<sup>103</sup> See Section 83(a)(1) of the US PVPA. See also Section 111(a) of the US PVPA provides:

Except as otherwise provided in this title, it shall be an infringement of the rights of the owner of a protected variety to perform without authority.

<sup>104</sup> Subsection (b) of Section 7(2) of Pub. L. 103-349, 108 Stat. 3140, Oct. 6, 1994, substituted "twenty" for "eighteen" and added protection for a tree or vine for a 25 year term. Section 913(b) of Pub. L. 104-127, 110 Stat. 1186, April 4, 1996; amended the term of protection to expire 20 years after the date of protection granted to the variety outside the United States.

<sup>105</sup> Specific Issues Concerning the Interface Between Patents and Breeders' Rights (Forty-Seventh Session Geneva, April 10, 2003, CAJ/47/2) at 2 of Annex, comparing patents within TRIPS and PBRs under UPOV Convention. See also the proceedings of the WIPO-UPOV Symposium on Intellectual Property Rights in Biotechnology (Geneva, October 24, 2003). Available at: [http://www.upov.int/en/documents/Symposium2003/intro\\_index.html](http://www.upov.int/en/documents/Symposium2003/intro_index.html) [Accessed 19 April, 2016]. See also WTO Doc. Job no. 2627, 7 May 1999.

<sup>106</sup> *Id.*

<sup>107</sup> Daniel Gervais, *The TRIPS Agreement: Drafting Analysis and Negotiating History* (London, Sweet and Maxwell, 1998) at 151.

<sup>108</sup> Sixth Ordinary Meeting of the Conference of the Parties to the Convention on Biological Diversity, 7-19 April 2002, The Hague, Netherlands (Decision VI/5) at para. 24.

The UPOV Convention provides an effective and well balanced system for the protection of new plant varieties which assures the breeders interest. Where effective systems of protection are in place, breeders may not have to rely on other systems of protection.

It further notes that: ‘Breeders need to recover their investment and to receive incentives in order to be able to continue their breeding activities’.<sup>109</sup> On this, Dutfield initially observes that, ‘there is no legal basis for implying that a non UPOV-compliant plant variety protection law is contrary to TRIPS simply for being inconsistent with UPOV’.<sup>110</sup> He also claims that UPOV officials know very little about actual farming but that they are a “club of scientists” that produces little public information. More substantively, the UPOV Office has given the impression of being closed through its apparent reluctance to engage with outsiders on matters within UPOV’s range of operation, and it can also be questioned why UPOV information is so sensitive that it must be kept from public view.<sup>111</sup>

He also reiterates that while they may know about breeding and favour commercial breeders, UPOV officials sit in Geneva, lack detailed knowledge on issues pertaining to TRIPS compliance, access to genetic resources and benefit sharing, disclosure of origin in IP, and the right to food.<sup>112</sup> Hence, they know little about how small-scale farmers actually develop new varieties and produce them.<sup>113</sup> Not surprisingly, UPOV has accepted the fact that they lack a practical understanding of the IP system and how IPRs affect their policy framework:

UPOV has not to-date, in the context of its work or otherwise, examined substantively the IP implications on its policies... and are not in a position, in the context of its work or otherwise, to express an opinion on the intellectual property implications of its policies.<sup>114</sup>

Based on this voluntary admission Dutfield is right to claim that UPOV officials are only playing the role of advocates and may not be aware of IP ramifications on

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<sup>109</sup> Bortey and Mpanju, *supra* note 38 at 100.

<sup>110</sup> Dutfield, *supra* note 29 at 15.

<sup>111</sup> *Ibid.* at 13.

<sup>112</sup> *Ibid.* at 12, observing that the Office of UPOV is very small with a staff of 11 people. This small group consists of people with backgrounds in such fields as agricultural economics, agronomy, plant breeding and law. *Ibid.* at 14.

<sup>113</sup> *Id.*

<sup>114</sup> Position of UPOV Concerning Decision Vi/5 of the Conference of the Parties to the Convention on Biological Diversity (Twentieth Extraordinary Session Geneva, April 11, 2003 (C(Extr.)/20/4)). Available at: [http://www.upov.int/edocs/mdocs/upov/en/c\\_extr\\_20/c\\_extr\\_20\\_4.pdf](http://www.upov.int/edocs/mdocs/upov/en/c_extr_20/c_extr_20_4.pdf) [Accessed 19 April 2016] at 2 of Annex under Option 2&3.

poverty.<sup>115</sup> Notably, the TRIPS Agreement does not specify that the UPOV Convention provides a “*sui generis*” alternative to patents. In fact, the WTO seems to be in doubt about the consistency of the UPOV legal claim regarding the concept of “effective *sui generis*” in TRIPS and UPOV obligations.<sup>116</sup>

Hitherto, a position statement based on an intervention by UPOV before the WTO’s Council for TRIPS in 2002 stated that: ‘The UPOV Convention provides an *effective sui generis system* of plant variety protection at national level and, through international harmonisation, at the international level’. The statement continues:

Enhancing international harmonisation is an indispensable tool for the protection of new plant varieties, for international trade and for the transfer of technology. Should a country introduce a system not compatible with the internationally harmonised system based on the UPOV Convention, this might result in barriers to trade and the transfer of technology.<sup>117</sup>

By this, UPOV seems to be promoting itself as “an effective *sui generis* system” for the protection of plant varieties as required by Article 27.3(b) of TRIPS.<sup>118</sup> This is an attempt to rewrite the rules on patents with a view to extending WTO members’ commitments under TRIPS to include stringent patent protection for plant varieties.

Settled into an uneasy standoff, a tremendous amount of scholarship has sought to clarify the distinction between patent under TRIPS and the UPOV style PBRs. Thus, there are significant differences in approach between PBRs and the regimes covered under TRIPS. While initially there seems to be an unclear relationship between patent rights under TRIPS and PBRs based on UPOV Convention, Rimmer provides empirical facts to reinforce the principle that patents and PBRs overlap and are not mutually exclusive.<sup>119</sup>

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<sup>115</sup> Dutfield, *supra* note 29 at 15.

<sup>116</sup> For a summary of positions at the WTO TRIPS Council on the relationship between TRIPS and UPOV see WTO Doc. IP/C/W/369/Rev.1, revised 9 March 2006, at 14-16.

<sup>117</sup> “International Harmonization is Essential for Effective Plant Variety Protection, Trade and Transfer of Technology” (UPOV Position based on an intervention in the Council for TRIPS, on September 19, 2002). <[http://www.upov.int/export/sites/upov/about/en/pdf/international\\_harmonization.pdf](http://www.upov.int/export/sites/upov/about/en/pdf/international_harmonization.pdf)> [Accessed 10 April 2016] para. 3. See also Dutfield, *supra* note 29 at 11.

<sup>118</sup> WTO Doc. IP/C/W/347/Add.3, 1. A view also expressed by the US, European Commission, Japan, Switzerland and Uruguay in submissions to the WTO TRIPS Council. For a detailed account of the positions held in the TRIPS Council on whether UPOV provides for an appropriate “*sui generis* system” see Note by the WTO Secretariat: “Review of the Provisions of Article 27.3(b). Summary of issues raised and points made.” Ibid. *supra* note 116, “WTO Doc. IP/C/W/369/Rev. 1”, Section II.C, at 14-17.

<sup>119</sup> Matthew Rimmer, “Franklin Barley: Patent Law and Plant Breeders’ Rights” (2003) 10 *Murdoch University Electronic Journal of Law* 4, citing *Diamond v Chakrabarty* (1980) 447 US 303; *JEM Ag Supply Inc v Pioneer Hi-Bred International Inc.* (2001) 534 US 124; High Court case of Grain Pool of

It must be noted that the purpose of the UPOV Convention was to ensure that the member states acknowledged the successes of breeders of new plant varieties by making available to them exclusive IPRs, on the basis of a set of uniform, new, stable and distinct principles.<sup>120</sup> Remarkably, member states to the UPOV Convention must provide statutory possibilities for breeders to enjoy twenty years' exclusive rights.<sup>121</sup> Significantly, PBRs are IPRs granted to the breeder of a new variety of plant that gives the breeder exclusive control over the production and reproduction of materials, and allow for their propagation, sale, export, import and storage.<sup>122</sup>

On the other hand, the TRIPS Agreement's influence on PBRs stems from the requirement in Article 27.3(b) of TRIPS that its members must provide protection for plant varieties 'either by patents or by an *effective sui generis system* or by any combination thereof'.<sup>123</sup> In the case of plant breeders' rights, the eligibility requirements for protection are not onerous, but the scope of protection granted is quite narrow, both in terms of exclusive rights and the various exceptions and limitations to those rights.<sup>124</sup> Eligibility requirements are high and difficult to meet, but once granted a patent conveys broad rights to exclude third parties from exploiting the patented invention.<sup>125</sup> Depending on the needs and level of development of plant breeder industries within its territory, a government may decide that either or both forms of protection will provide the appropriate incentives to encourage plant-related research and innovation.<sup>126</sup>

## **2.1 Why is Ghana Tripping on the TRIPS Agreement?: On the Bilateral Trade Effects of Free Trade**

The rule-based trading system developed by the GATT and the WTO has been embraced by virtually the entire global community. It has provided an effective road

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Western Australia v Commonwealth (2000) 46 IPR 515 and Monsanto v Percy Schmeiser (2001) FCT 256 to substantiate the claim that PBRs are not different from IP patent rights.

<sup>120</sup> Article 5.1 of the UPOV Act 1991.

<sup>121</sup> Article 19.2 of the UPOV Act 1991. Note that for trees and vines, the said period shall not be shorter than 25 years. See also Dutfield, *supra* note 29 at p. 9.

<sup>122</sup> Article 14.1(a) of the UPOV Act 1991.

<sup>123</sup> Laurence Helfer, Intellectual Property Rights in Plant Varieties International Legal Regimes and Policy Options for National Governments (Rome, FAO Legislative Study 85, 2004) at 33.

<sup>124</sup> *Ibid.* at 43.

<sup>125</sup> *Id.*

<sup>126</sup> *Id.*

map that facilitates the integration of countries into the international trading system. However, this multilateral system appears to be undermined by the upsurge of Bilateral Trade Agreements (BTAs).<sup>127</sup> Recently, there seems to have been an increase in BTAs around the world covering a variety of subjects.<sup>128</sup> These BTAs are operating under the wheels of two main principles: National Treatment (NT) and Most-Favoured Nations (MFN) clause. It is a matter of broad general principle under the WTO agreements, countries cannot normally discriminate between their trading partners. This principle is known as the MFN treatment.

Several agreements under the auspices of WTO provide for this, although in each agreement the principle is handled slightly differently. It is so important that Article 1 of the General Agreement on Tariffs and Trade (GATT), which governs trade in goods contains this norm.<sup>129</sup> MFN is also a priority in the General Agreement on Trade in Service (GATS).<sup>130</sup> Article 4 of the TRIPS Agreement embodies this principle. Together, those three agreements cover all three main areas of trade handled by the WTO. The main point of principle is that MFN extend reciprocal bilateral relationships following both GATT and WTO norms of reciprocity and non-discrimination immediately and unconditionally.<sup>131</sup>

The underlying merit as far as the NT is concerned is that member states must treat foreigners and locals equal pursuant to imported and locally-produced goods. This principle of NT is also found in all the three main WTO agreements - Article 3 of the GATT, Article 17 of the GATS and Article 3 of TRIPS, although once again the principle is handled slightly differently in each of these. As a matter of jurisprudential logic, the notion of whether the principles of NT and MFN are applicable to the concept of *sui generis system* protecting plant varieties has attracted academic discussions but

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<sup>127</sup> Jagdish Bhagwati, *Free Trade Today* (Princeton University Press, Princeton, NJ, 2002) at 119, noting that the headlong rush to preferential trade has left free trade in a sorry state.

<sup>128</sup> As of 15 June 2014, some 585 notifications of regional trade agreements had been received by the WTO. Of these, 379 were in force. See <[http://www.wto.org/english/tratop\\_e/region\\_e/region\\_e.htm](http://www.wto.org/english/tratop_e/region_e/region_e.htm)> [Accessed 1 June 2016].

<sup>129</sup> The General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, The Legal Text: The Result of the Uruguay Round of Multilateral Trade Negotiation, 17 (1999), 1867 U.N.T.S. 187, 33 I.L.M. 1153 (1994).

<sup>130</sup> Article 2 of GATS: General Agreement on Trade in Services, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1B, The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations 284 (1999), 1869 U.N.T.S. 183, 33 I.L.M. 1167 (1994).

<sup>131</sup> Peter Drahos, "BITs and BIPs: Bilateralism in Intellectual Property" (2001) 4 *The Journal of World Intellectual Property* 6, 791 at 802.

with mixed conclusions.<sup>132</sup> Surprisingly, a WTO Panel interpretation in 2002 seems to have provided an intimate fusion with the main point of principle being that the NT and the MFN clause are of critical importance to the operational requirements of patent under TRIPS regime.<sup>133</sup>

The WTO Appellate Body appears to have confirmed the understanding that the obligation of members grant protection to all subject of IP is well within the purview of TRIPS,<sup>134</sup> except that members have the option to protect plant varieties by *sui generis* rights (such as breeder's rights) instead of through patents, and concluded that *sui generis* rights were in fact a form of IP protected by the treaty.<sup>135</sup> Consequently, in the area of PVP, the WTO Appellate Body reasoned that each member must accord "no less favourable treatment" to the nationals of all other WTO members than it accords to its own nationals, and must grant to the nationals of all other WTO members "any advantage, favour, privilege or immunity" granted to any other WTO member.<sup>136</sup>

In such a measure, a WTO member may not discriminate in a way that does not respect the obligations of national treatment and most-favoured-nation treatment that are fundamental to the TRIPS Agreement.<sup>137</sup> The logical implication is that the NT and MFN principles, which embody a key norm on which the WTO system sits, arguably offer much more incentives to technology exporters.<sup>138</sup> It is on this basis that Drahos points to the legal effect of BTAs contained in TRIPS, unlike other WTO Agreements, as being very much proscriptive and restrictive.<sup>139</sup> When fully in force, Evans thinks that the obligation under the NT and MFN norms provide the basis for limiting or eliminating completely the varying patent policy approaches that previously existed for national laws to differentiate the treatment conferred to nationals of member states.<sup>140</sup>

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<sup>132</sup> Helfer, *supra* note 123 at 58.

<sup>133</sup> Appellate Report, The United States - Section 211 Omnibus Appropriations Act of 1998, AB-2001-7, WT/DS176/AB/R, 2 January 2002) paras. 242 and 297.

<sup>134</sup> Panel Report, United States – Section 211 Omnibus Appropriations Act of 1998 (WT/DS176/R, 6 August 2001) para. 360.

<sup>135</sup> *Ibid.* para. 363.

<sup>136</sup> *Ibid.* para. 335.

<sup>137</sup> *Id.*

<sup>138</sup> Article 4.1 of the UPOV Act 1991.

<sup>139</sup> Drahos and Braithwaite, *supra* note 26 and the text accompanying.

<sup>140</sup> Gail Evans, "TRIPS and the Sufficiency of the Free Trade Principles" (1999) 2 *The Journal of World Intellectual Property* 5, 707 at 714, mentioning that both NT and MFN principles are instrumental in removing private law, such as IP, from its traditional territorial foundation and aligning it with the free trade principles of international trade law to ensure that domestic laws do not discriminate against either

## 2.2 Regime Shifting; Implications of the African Growth and Opportunity Act 2000

Given that international trade has been a defining driver for technology development and the benefits it comes with; private corporations everywhere are working harder than ever to persuade their elected leaders to make decisions that favour their fundamental profit interests. AGOA is one such initiative promoted by the US private corporate interests. AGOA is part of the Trade and Development Act, 2000,<sup>141</sup> and was passed by the US Congress and signed into law on 18 May 2000.<sup>142</sup>

Specifically, AGOA strengthens some of the Generalised System of Preferences (GSP) programmes<sup>143</sup> which empower the US President through an executive instrument to determine the eligibility of a country to benefit from additional preferential tariffs treatment.<sup>144</sup> AGOA's main objective is to promote the economic emergence of Africa, and to enable the continent to join the international trading system efficiently. AGOA is meant to serve the mutually assured beneficial trade interests of both the US and African countries. At a glance, Section 103(4) appears to precisely offer the prospect of market access to African countries.

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member states or their nationals. For further analysis of the national treatment principle in WTO law see Carlos Correa, *Trade Related Aspects of Intellectual Property Rights: A Commentary on the TRIPS Agreement (Oxford Commentaries on GATT/WTO Agreements)* (Oxford: Oxford University Press, 2007) at 51-65.

<sup>141</sup> AGOA is contained in the US implementation legislation: Title 1 of The Trade and Development Act of 2000 P.L. 106-200. 114 Stat. 251 (19 USC 3701).

<sup>142</sup> Section 506A(a)(1) of the Trade Act of 1974, as amended (19 USC 2466a (a)(1)), as added by section 111(a) of the African Growth and Opportunity Act (title I of Pub. L. 106-200).

<sup>143</sup> See importantly, Title V of the Trade Act of 1974, as amended, 19 USC 2461. Note that the US GSP was enacted in the 1974 Trade Act, which authorizes the president to eliminate tariffs on imports from eligible developing countries. The Trade Act of 1974, Pub. L. No. 93-618, §§ 501–505, 88 Stat. 1978, 2066-71 (1974) (codified as amended at 19 USC §§ 2461-2467 (2000)). See Importantly Title V of the Trade and Tariff Act of 1984 (Pub. L. 98-573) subject to periodic renewal by Congress (the so-called GSP Renewal Act) conditioning GSP; inter alia, on protection of IPRs in order to maintain US preferential trading status. This Act clarified the conditions under which unfair trade cases under Section 301 of the Trade Act of 1974 can be pursued. See also the reauthorization of the Act in 1996 (19 USC 2101. Pub. L. 104-188, Title I, subtitle J. 110 Stat 1917), which now requires the President to “take into account the extent to which such country is providing adequate and effective protection of intellectual property rights.” (Last renewed on July 31, 2013, through Pub. L. 112-40). For further review of the US GSP See Amy Mason, “The Degeneralization of the Generalized System of Preferences (GSP): Questioning the Legitimacy of the US GSP” (2004) 54 *Duke Law Journal* 2-5, 513 at 524, criticising the US-GSP as primarily employing negative conditionality which falls generally under its overarching economic interests.

<sup>144</sup> Country eligibility criteria under the AGOA: Section 104 of the Trade and Development Act of 2000 under subtitle A and Section 111 of that Act under Subtitle B in effect amending the GSP Act consolidating AGOA to GSP via Section 506A.

This provision stresses the need to encourage investments in African countries, and this broadly falls in line with the ground-breaking approach that several African countries have been waiting for in order to consolidate their economic growth agendas. Moreover, Section 122(a) of AGOA recognises that the US seeks to use the partnership to establish a comprehensive trade and development policy for African countries. To do this, the US intends to use the AGOA platform to extend liberal access to duty-free and quota-free exports from Africa to the US market.<sup>145</sup> While the foregoing sounds promising, the reality is that Section 125(c) of AGOA provides that the US is pursuing the exportation of US goods and services to African countries.

The case against BTAs is empirical in nature, and academic literature often captures this evidence. To reveal the drive behind these waves of BTAs, Okediji claims that multilateralism is a dead loss for member states like the US and the EU that seek the highest returns for IPRs. Okediji further notes that in order to ameliorate that loss, bilateralism offers a precise and controlled opportunity to recover any perceived losses from the multilateral engagement and to avoid giving up additional concessions to countries. This is because bilateralism splinters any developing countries coalition and may make it difficult for them to negotiate on a broader development platform.<sup>146</sup>

In addition, Drahos contends that leading developed countries which conclude BTAs often use these agreements for strategic economic gains.<sup>147</sup> He claims that they offer a suitable forum that is capable of affording their key industries with an effective platform to have their commercial interests broadened.<sup>148</sup> Notwithstanding the criticism of key developed countries on their use of BTA standards to rebalance their trade interest to the detriment of other signatories, and apart from the pressure brought to bear on poor countries to sign BTAs, they sometimes do not hesitate to trade off their vital socio-

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<sup>145</sup> Section 112(c) of the AGOA, as added in Section 6002 of the Africa Investment Incentive Act of 2006 (Division D, title VI of Public Law 109-432) (19 USC 3721(c)) provides special rules for certain apparel articles imported from lesser developed beneficiary sub-Saharan African countries.

<sup>146</sup> Ruth Okediji, "Back to Bilateralism? Pendulum Swings in International Intellectual Property Protection" (2004) 1 *University of Ottawa Law & Technology Journal* 1-2, 125 at 144.

<sup>147</sup> Drahos, *supra* note 131 at 803, noting that developing countries and developing countries are being led into a highly complex multilateral/bilateral web of IP standards that are progressively eroding not just their ability to set domestic standards, but also their ability to interpret their application through domestic administrative and judicial mechanisms.

<sup>148</sup> Peter Drahos, "Expanding Intellectual Property's Empire: The Role of FTAs" (Regulatory Institutions Network, Research School of Social Sciences, Australian National University, 2003) at 10, noting that by adopting BTAs developing and developing countries are going even further to protect patent more than the US does.

economic protection in exchange for market access for their exports.<sup>149</sup> This is clearly evident from the willingness on the part of African countries to negotiate in spite of concerns raised by observers on the impact of BTAs.<sup>150</sup> Notably, the resulting opportunity for market access means African policymakers are not able to pay detailed attention to the future consequence of key provisions in BTAs.

### **2.3 Implementation of the PBRs: Noting the Source of Political Pressure on Ghana**

At the centre of a disturbing claim lies idea that the key IP provision in AGOA fuels the political pressure on African countries because it serves as the eligibility criteria.<sup>151</sup> This has succeeded in creating an unhelpful situation that has resulted in self-imposed difficulties. It propagates the negative thinking among policymakers concerning the US ability to withdraw trade benefits if PBRs are rejected. What makes AGOA so distinctive is that once ratified there is no room for derogation; its legal effects are irreversible.

Consequently, while African countries were free to endorse AGOA, they seem to have lost any right to repeal or even amend key legislations to protect their social interests. In hindsight, Drahos contends that although the preferential trading arrangements that are found in the US AGOA initiative are not in themselves a stringent demand for IP protection, he still concedes that they can be used to exert pressure on a country to comply with US standards of IP protection which may well go beyond the provisions of the TRIPS Agreement.<sup>152</sup> The moderate claim here is that AGOA has considerably contributed to the pressure on Ghana to implement stricter PBRs as opposed to effective *sui generis* regimes under TRIPS.

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<sup>149</sup> Drahos, *supra* note 131 at 792, noting that poor countries simply decide to adopt BTAs and TRIPS-plus measures in order to avoid further unilateral action by the US such as action under the 301 processes.

<sup>150</sup> 'The Potential Effects of Economic Partnership Agreements: What Quantitative Models Say' (Overseas Development Institute Briefing Paper No. 5: London, June 2006) at 3, explaining that fiscal effect (loss of tariffs revenue) for West Africa states is negative. See Table 1: "Economic effects of EPAs on ACP Regions" See also Stephen Karingi, Nassim Oulmane, Mustapha Sadni-Jallab, Remi Lang, and Romain Perez, 'Assessment of the impact of the Economic Partnership Agreement between the ECOWAS countries and the European Union' (African Trade Policy Centre Paper No. 29 by the Economic Commission for Africa: Ethiopia Addis Ababa, 2005) 45 recounting that the EU member states could gain more than US\$ 1.87 billion worth of increased exports to the West Africa region alone while West African states are likely to suffer a welfare loss of US\$ 564 million each.

<sup>151</sup> Section 104 of the Trade and Development Act of 2000 under subtitle A and Section 111 of that Act under Subtitle B in effect amending the GSP Act consolidating AGOA to GSP via Section 506A.

<sup>152</sup> Drahos, *supra* note 131 at 801.

What carries all these pressures into effect is the IP clause in Section 104, which remains a significant eligibility standard, and Section 111(a)(3) of AGOA which calls for continued compliance in order to benefit from trade concessions. Otherwise, the US President has the discretion to terminate a country as a beneficiary. This comes on the back of evidence that Ghana and several African countries have been in contact with the UPOV office for assistance in the development of their national legislations on PBRs even though these countries are not signatory members of the UPOV Convention.<sup>153</sup> The US authorities have recently put pressure on policymakers in Ghana to that effect, and this proves that the US government is behind the pressure on the country to enact legislations on PBRs.<sup>154</sup>

For fear of losing trade benefits, Ghana must respect US demands. The implication is that if countries resist persistent demands by the US to promulgate legislations based on PBRs, they would be in breach of key obligations in accordance with Section 111(a) of the AGOA provision, which together with Section 506(A) of the GSP and Section 502(c)(5) of the Trade Act 1974, remains the fundamental requirement for designating countries as beneficiaries of AGOA with access to the US market and other budgetary supports.<sup>155</sup> African countries are under constant pressure to reflect on the enormous economic prospects in AGOA; even though these appear non-existent, policymakers are still responding to the US pressure to enact legislations on PBRs.

In fact, any resistance by an African country would mean such a country is erecting barriers to US trade and investment interests pursuant to Section 104(c) of AGOA. They would also be in breach of Section 104(c)(i) of AGOA which stresses national treatment and measures to create an environment conducive to foreign investments by US corporations. More significantly, such a move would be contrary to the commitment by African countries to strengthen the protection of IP belonging to various US corporations in accordance with Section 104(c)(ii) of AGOA. What further compounds

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<sup>153</sup> Algeria, Burundi, Democratic Republic of Congo, Djibouti, Ghana, Malawi, Seychelles, Sudan, Uganda, United Republic of Tanzania, Yemen, and Zambia. <http://www.apbrebes.org/content/national-and-regional-plant-variety-protection-legislation-developing-countries> [Accessed 20 August 2016]. “A notification by Ghana’s Attorney General”, *supra* note 36.

<sup>154</sup> See, <http://wikileaks.org/cable/2010/01/10ACCRA59.html> [Accessed 2 July 2016].

<sup>155</sup> “AGOA, GSP Act and Trade Act, 1974”, *supra* note 143.

the issue are Section 104(b) and the Sub-Title B of Section 111(a)(3) of the AGOA obligation on continuing compliance once a country receives benefits from AGOA.

Surprisingly, while the eligibility requirements are set out in the legislation, it is the US which determines, annually, whether countries have met the published eligibility requirements. Beneficiary countries have no recourse to dispute settlement unlike the mainstream multilateral platform under the WTO.<sup>156</sup> Beneficiary status may therefore be granted, or withdrawn, at the discretion of the US President, if the President determines that a beneficiary African country is not making progress in meeting the requirements set forth in Section 104 of AGOA which include IP protection as per Section 104(c)(ii).

It is worth noting that under the Proclamation 7350 the US President has delegated to the USTRs the authority to determine whether these countries continue to meet the on-going compliance of AGOA.<sup>157</sup> This would by implication mean that countries have failed to honour a key obligation in accordance with Section 111(a) of AGOA, which together with Section 506(A) of the GSP and Section 502(c)(5) of the Trade Act 1974 remains the fundamental requirement for designating countries as beneficiaries of AGOA.

#### **2.4 The Legal Effect of AGOA on Ghana's Ability to Implement Safeguard Measures under its PBRs**

Article 17(1) of the UPOV Convention details the partial recognition of public interests as a foundation for restricting the exercise of the breeders' right, and this is comparable to Articles 30 and 31 of TRIPS where member states can exercise 'limited exceptions' and "other use without IP owners authorisation" of the patent owner. Nevertheless, these options are not openly available under the UPOV Convention style PBRs. Therefore, if Ghana were to implement effective *sui generis* regimes they would maintain their rights

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<sup>156</sup> Dispute Settlement Rules: Understanding on Rules and Procedures Governing the Settlement of Disputes, Marrakesh Agreement Establishing the World Trade Organisation, Annex 2, the Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations 354 (1999), 1869 U.N.T.S. 401, 33 I.L.M. 1226 (1994). For additional analysis of the WTO Dispute Resolution Rules see Ernst-Ulrich Petersmann, *The GATT/WTO Dispute Settlement System: International Law, International Organizations and Dispute Settlement* (London, Boston MA: Volume 23, Kluwer International Law-Martinus Nijhoff, 1997) at 117, which discuss the new Dispute Settlement System of the 1994 WTO Agreement.

<sup>157</sup> Section 8 of the Proclamation 7350 of 2 October 2000 [114 Stat 3378] Federal Register / Volume 65, No. 193, at 59321.

to use public safeguard measures, such as a compulsory licence, to meet the reasonable requirements of the public as provided in Article 31 of TRIPS.<sup>158</sup>

This is only possible within patent law but not under PBRs. Section 209 of the US Patent law states that:

If the Federal Agency finds that the public will be served by the granting of the licence, or licence is a reasonable and necessary incentive to bring the invention to practical application; or to promote the invention's utilisation by the public; the Federal Agency may grant an exclusive or partially exclusive licence on a federally owned invention thereof.<sup>159</sup>

Nevertheless, compulsory licences are not generally permitted under the US PVP Act 1970.<sup>160</sup> The only statutory exception for the public interest use rule pertains to the exploitation of patents by or for the benefit of the federal government itself, and no other third party can exercise this safeguard provision.<sup>161</sup> Notwithstanding, there is nothing that states about dealing with public non-commercial use, anti-competitive, national emergency or other circumstances of extreme urgency as postulated under the provisions of Article 31 of TRIPS.

The same is true of Section 97(700)(a) of the US Regulations and Rules of Practice which permits a government Secretary to declare a protected variety open to use for public interest purposes, but only within the US, and even provides protection for two years.<sup>162</sup> Notably, this does not extend to foreign countries,<sup>163</sup> and is also subject to the requirement for a reasonable or entire remuneration.<sup>164</sup> The same Section 97(700)(a) permits US patents titleholders to oppose applications for such a public interest use.<sup>165</sup>

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<sup>158</sup> The term 'non-voluntary' or 'compulsory licensing' refers to the practice by a government to authorize itself or third parties to use the subject matter of a patent without the authorization of the right holder for reasons of public policy. See Jerome Reichman and Catherine Hasenzahl, *Non-Voluntary Licensing of Patented Inventions: Historical Perspective, Legal Framework under TRIPS, and an Overview of the Practice in Canada and the United States of America* (UNCTAD-ICTSD Project on IPRs and Sustainable Development Series, Issue Paper 5: France, Crans-Gevrier, 2003) at 10.

<sup>159</sup> Title 35 of the U.S.C. entitled 'Patents' as *codified* July 19, 1952, c. 950, 66 Stat. 792: (amended by) Pub. L. No. 94-131, Nov. 14, 1975, 89 Stat. 685. [emphasis added].

<sup>160</sup> "The US PVPA", *supra* note 102.

<sup>161</sup> Section 1498 of Title 28 U.S.C. 1961 [currently through Pub. Law 113-142.] Part IV, chapter 91.

<sup>162</sup> "The US Regulations and Rules of Practice", *supra* note 102. See also Section 44 of the PVPA 7 USC. 2404 as amended by Section 13(f) of Pub. L. 103-349, 108 Stat. 3143, 6 October 1994.

<sup>163</sup> *ibid.* Public interest in wide usage 'In order to insure an adequate supply of fiber, food, or feed in this country' arguably referring to or within the US.

<sup>164</sup> *Ibid.* 'In the event litigation is required to collect such remuneration, a higher rate may be allowed by the court.' See also "28 U.S.C.", *supra* note 161, Section 1498.

<sup>165</sup> The relevant part of Section 97(700)(a) reads:

In addition, the US PVPA has a provision that forbids foreign governments from interfering with patents granted to US firms. Section 130(a) states that:

Any State, any instrumentality of a State, and any officer or employee of a State or instrumentality of a State acting in the official capacity of the officer or employee, shall not be immune, under the eleventh amendment of the Constitution of the United States or under any other doctrine of sovereign immunity, from suit in Federal court by any person, including any governmental or nongovernmental entity, for infringement of plant variety protection under Section 111, or for any other violation under this title.<sup>166</sup>

Moreover, Section 3802(4) of the US Trade Act, 2002 details what the US offers:

(ii) providing strong protection for new and emerging technologies and new methods of transmitting and distributing products embodying intellectual property; (iii) preventing or eliminating discrimination with respect to matters affecting the availability, acquisition, scope, maintenance, use, and enforcement of intellectual property rights; (iv) ensuring that standards of protection and enforcement keep pace with technological developments, and in particular ensuring that right holders have the legal and technological means to control the use of their works ... and to prevent the unauthorized use of their works; and (v) providing strong enforcement of intellectual property rights, including through accessible, expeditious, and effective civil, administrative, and criminal enforcement mechanisms.

By virtue of Section 97(5)(a) of the US Regulations and Rules of Practice, legal protection on PVP will be afforded to nationals and residents of the US, and nationals and residents of member states of the inter-governmental UPOV Convention. More importantly, sub-paragraph (i) of the same stipulates that nationals of a foreign state which is not a member of the UPOV Convention will be entitled to the same type of protection if such a country is under any treaty to which the US is a party.

With this background, Drahos argues that the US in essence wants to bring IP standards in line with its own domestic position.<sup>167</sup> Presumably, the foregoing legal protection is

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In accordance with [Section 44 of the PVPA] the Secretary shall give the owner of the variety appropriate notice and an opportunity to present views orally or in writing...

<sup>166</sup> Section 3(b) of Pub. L. 102-560, 106 Stat. 4231, Oct. 28, 1992, added Sec. 130, and Sec. 4 of Pub. L. 102-560, provided that the amendments made by this Act [amending Section 111 and adding Section 130] shall take effect with respect to violations that occur on or after the date of enactment of this Act. (7 U.S.C. 2541 note.) Section 13(w) of Pub. L. 103-349, 108 Stat. 3144, 6 October 1994.

<sup>167</sup> Drahos, *supra* note 148 at 9, citing *Hughes Aircraft Co. v. United States*, 148 F.3d 1384, 1385 (Fed. Cir. 1998).

based on the NT and MFN principles.<sup>168</sup> Given this legal effect, signatory African countries and more specifically, Ghana is able to implement public safeguard measures only if they are permissible under US jurisprudence. Notably, the US strictly protects PBRs under its PVPA and forbids the use of compulsory licensing thereof.<sup>169</sup> This literally means Ghana that signed the AGOA initiative with the US will not have the right to exercise any recourse to compulsory licensing.

Moreover, the US claims that it is seeking to impose standards of IP on signatory states of its BTAs that reflect its own domestic standards. This is in accordance with Section 3802(4)(A)(II) of the US Trade Act, 2002, which states that, ‘any multilateral or bilateral trade agreement governing intellectual property rights that is entered into by the United States reflect a standard of protection similar to that found in United States law’. Pursuant to Section 3802(b)(3)(E) of the US Trade Act, 2002, the US as part of its BTAs is ‘seeking to establish standards.... consistent with United States legal principles and practice, including the principle of due process’.

This reinforces the argument that the enforcement regime in Ghana’s PBRs validated through AGOA must be consistent with US legal principles and practice under UPOV style PVP. Consequently, the logical implication is that Ghana have in fact carried into effect IP legal standards and enforcement regimes that are prevalent in the US. This emphasis thus presents a gloomy situation that does not appear promising for the country since the US PVPA, which is crafted in the exact frame as the UPOV Convention, limits flexibilities to protect public interests. This situation is even worsened as the US does not recognise a farmers’ privilege under its utility patent laws.<sup>170</sup>

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<sup>168</sup> Evans, *supra* note 140 at 714, mentioning that both national treatment and most favoured nation principles are instrumental in removing private law, such as IP, from its traditional territorial foundation and aligning it with the free trade principles of international trade law to ensure that domestic laws do not discriminate against either member states or their nationals. See also Rafael Leal-Arcas, “The Resumption of the Doha Round and the Future of Services Trade” (2007) 29 *Loyola of Los Angeles International and Comparative Law Review* 3, 339 at 346, noting that the binding commitment of the most favoured nation principle is valuable because it creates a more predictable legal system.

<sup>169</sup> “US PVPA”, *supra* note 102.

<sup>170</sup> Note that Article 11 of the European Union’s Directive 98/44/EC of the European Parliament and of the Council of 6 July 1998 on the Legal Protection of Biotechnological Inventions. Official Journal L 213, 30/07/1998 P. 0013 – 0021. See Helfer, *supra* note 123 at 50.

More importantly, UN-FAO Resolution 5/89 endorse the concept of farmers rights.<sup>171</sup> Note that such rights are also recognised in Article 9 of the ITPGR, however, asserts that the responsibility for realising farmers' rights rests with national governments. The provision maintains that 'in accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to its national legislation, take measures to protect and promote farmers' rights'.<sup>172</sup>

The UN further recognises the enormous contribution that farmers of all regions have made to the conservation and development of plant genetic resources, which constitute the basis of plant production throughout the world, and which form the basis for the concept of farmers rights.<sup>173</sup> The organisation agreed that the best way to implement the concept of farmers rights is to ensure the conservation, management and use of plant genetic resources, for the benefit of present and future generations of farmers.<sup>174</sup>

It resolved to assist farmers and farming communities, in all regions of the world, but especially in the areas of origin/diversity of plant genetic resources, in the protection and conservation of their plant genetic resources, and of the natural biosphere.<sup>175</sup> Given the rigidity of the UPOV Convention style PBRs as opposed to much more flexible *sui generis* regimes under TRIPS, the US prefers Ghana to adopt the former with a view to restraining the potentially overriding flexibilities under TRIPS while cementing the commercial interests of its private corporations.

### Section Three

#### 3.0 Applicability of Patent Protection for Plant Varieties and the TRIPS Exceptions

It is worth noting that the exclusive patent rights are not absolute but are qualified by several limitations; particularly those associated with social policy options, in order to meet public interest.<sup>176</sup> While the conditions and legal scope for patent protection seem

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<sup>171</sup> UN-FAO Resolution 5/89, adopted by FAO Conference, 25th Session, Rome, 11–20 November 1989). See Endorsement.

<sup>172</sup> Article 9.2 of the IT-PGRFA.

<sup>173</sup> UN-FAO Resolution 4/89, adopted by FAO Conference, 25th Session, Rome, 11–20 November 1989) para. 3.

<sup>174</sup> *Id.*

<sup>175</sup> FAO Resolution 5/89, *supra* note 171, para. (b) under Endorsement.

<sup>176</sup> Carlos Correa, Intellectual Property Rights and the Use of Compulsory Licenses: Options for Developing Countries (Geneva-Switzerland: Trade-Related Agenda, Development and Equity Working

quite exhaustive under TRIPS, the discretion afforded to countries to protect public interests is very wide. In fact, TRIPS has several layers of flexibilities that member states could easily invoke to the fullest extent to protect their public interests. This comes on the back of popular accounts by scholars that the TRIPS Agreement allows its member states to derogate from the grant of patent rights that could have serious complications on social welfare.

As Taubman puts it, ‘the concept of “trade-related aspects” of IP did not mean ignoring the wider public policy questions of social welfare and economic development’.<sup>177</sup> In a similar vein, despite the notion of legitimacy being contingent on domestic legal provisions, TRIPS also limits the flexibility that most member states enjoy in adjusting and enforcing their own IP laws.

To a considerable degree, the textual understanding of Article 27(3)(b) of TRIPS indicates that member states have the discretion to adopt either the PBRs or an effective *sui generis* regime under TRIPS.<sup>178</sup> This provision follows the recommendations made by a Group of Legal Experts on the relationship between the Paris Convention for the Protection of Industrial Property<sup>179</sup> and the proposed UPOV in 1960. The experts concluded that:

While each country should remain entirely free to choose the system of protection that it adopted for domestic legislation, it is desirable that in each of them, for one and the same species or group of species, there should be just one category of protection.<sup>180</sup>

It seems that the effective *sui generis* regime under TRIPS provides adequate flexibility in line with the socio-economic situations of member states, and two important common

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Paper No. 5, South Centre, 1999) at 7, noting that patent rights are not absolute and national laws have traditionally identified certain situations in which patents are not to be granted.

<sup>177</sup> Antony Taubman, *Thematic Review: Negotiating “Trade-Related Aspects” of Intellectual Property Rights*. in *The Making of the TRIPS Agreement Personal Insights from the Uruguay Round Negotiations* (eds) Jayashree Watal and Antony Taubman (Geneva, WTO Secretariat, 2015) at 23.

<sup>178</sup> Carlos Correa, *TRIPS-Related Patent Flexibilities and Food Security: Options for Developing Countries* (Policy Guide, QUNO-ICTSD, Geneva, Switzerland, 2012) at 7, arguing that TRIPS mandates the protection of plant varieties, allowing several options: ‘patents, an effective *sui generis* regime or a combination of both.’

<sup>179</sup> Paris Convention for the Protection of Industrial Property of 1883, 21 UST 1583, 828 UNTS 305 (as revised).

<sup>180</sup> Andre Heitz, *The History of Plant Variety Protection*. In *The First Twenty-five Years of the International Convention for the Protection of New Varieties of Plants* (UPOV, Publication No. 879, Geneva, 1987) at 87. See also Dhar *supra* note 73 at 8.

understandings reinforce this view.<sup>181</sup> As a matter of fact, while the TRIPS Agreement marked a new era of obligations regarding the protection and enforcement of patent rights, WTO members' retained important policy options, "flexibilities" and "safeguards" It is imperative to delve into the specific exceptions provided under Articles 1, 30 and 31 of the TRIPS Agreement in order to find the general legal balance required to protect social welfare. These need to be appreciated against the backdrop of Articles 7 and 8, which set out the objective and principles therein to understand the full purport of the TRIPS Agreement.

In fact, the TRIPS Agreement does not establish a uniform international law or even uniform legal requirements but only minimum standards.<sup>182</sup> Therefore, in implementing the TRIPS Agreement, member states have considerable room to determine the modalities for implementing patent laws in response to the characteristics of their own legal systems, practices and developmental needs in as much as they do not conflict with key provisions of TRIPS.

In other words, under TRIPS provisions, members ignore patents as they consider how to protect plant-related innovations in their national legal systems based on the reasonable requirements of the public. Recall that TRIPS is a minimum standard Agreement whose legal framework expressly contemplates that WTO members may not necessarily provide greater protection for IPRs than are mandated.<sup>183</sup> Therefore, extending patent protection to plant-related inventions and innovations remains an option for national governments.<sup>184</sup> This is evident, in the TRIPS, as Article 27.3(b) in particular, invites members to protect plant varieties with patents or with a combination of patents and a sui generis system.

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<sup>181</sup> Correa, *supra* note 178 at 5, observing that Article 27(3)(b) allows WTO Members considerable policy space to define national laws in this area.

<sup>182</sup> Jerome Reichman, "Universal Minimum Standards of Intellectual Property Protection Under the TRIPS Component of the WTO Agreement (1995) 29 *The International Lawyer* 2, 345 at 351.

<sup>183</sup> Jayashree Watal, *Intellectual Property Rights in the WTO and Developing Countries* (The Hague, Kluwer Law International, 2000) at 149.

<sup>184</sup> Article 27(2) provides that:

Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.

In fact, the wider discretion afforded to members on which to implement the Agreement could be inferred under the principle of territoriality, that is, an internationally recognised norm, and forms the basis for structuring the protection of IP rights nationally.<sup>185</sup> The territorial foundation of IP law is grounded in the notion that every government has sovereignty within its borders or territories on IP matters.<sup>186</sup> Thus, in relation to the principle of territoriality, the scope of protection of an IP right is limited to the territory of the state where the right is granted.<sup>187</sup> This norm prevents any member from interfering with the rights granted to a patent holder by another member and justifies, for example, exclusive jurisdiction of the authorities of the granting state with respect to questions related to the validity of rights conferred and their limitations.<sup>188</sup>

In respect of the nature and scope of obligations, the first set of obligations as far as Article 1 of TRIPS is concerned is that members should give effect to the provisions of the Agreement. The second main set of provisions deals with domestic procedures and remedies for the enforcement of IP rights.<sup>189</sup> In the *EC - Trademarks and Geographical Indications* case the Panel found that: ‘In accordance with Article 1.1, the European Communities is free to determine the appropriate method of implementing the provisions of the Agreement within its own legal system and practice’.<sup>190</sup>

This greater freedom attests to the fact that even though TRIPS attempted to harmonise IP rules globally, it did not alter the territorial foundation of patent law because IP rights, as rules, are subject to different legal regimes. As a result, it remains a national matter independent of other national regimes given the absence of supranational

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<sup>185</sup> Stephen Pericles Ladas, *Patents, Trademarks, and Related Rights: National and International Protection* (Vol. 1, Boston MA. Harvard University Press, 1975) at 400, explaining the principle of territoriality to simply mean that the rights derived from a patent are limited to the territory for which the right was granted.

<sup>186</sup> *Id.*

<sup>187</sup> *Id.*

<sup>188</sup> A Frederick Abbott, Thomas Cottier and Francis Gurry, *International Intellectual Property Integrated World Economy* (New York: Aspen Publishers; 2nd Edn, 2011) at 602, commenting that the sovereignty of each national government within its own territory is the paramount principle by which the international legal and political order was constituted.

<sup>189</sup> Carlos Correa, “*Intellectual Property Rights, the WTO and Developing Countries: The TRIPS Agreement and Policy Options*” (London: Zed Books, 2000) at 6-8, discussing the limits and TRIPS as ceiling for the protection of IPRs.

<sup>190</sup> EC – Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs (WT/DS174/R, Mar. 15, 2005) paras. 7.746 & 7.682.

enforcement establishment.<sup>191</sup> More importantly, given that TRIPS does not require any patent protection for plant-related innovations, it follows as a matter of course that the treaty does not strictly oblige WTO members to adopt any particular form of patent protection.

This allows governments the option of including plant varieties within their existing utility patent statutes and/or of enacting a separate statute applicable exclusively to plants. The US is a classic example in this claim,<sup>192</sup> although, this not quite the position in EU jurisprudence, as Article 53(b) of the European Patent Convention prohibits the patenting of plant varieties.<sup>193</sup> This, notwithstanding, the European Patent Office recently confirmed that claims to patent protection that are broadly drawn to encompass plants or an invention broader than a single variety may be patented, even though such claims may encompass multiple varieties.<sup>194</sup>

Consequently, by choosing an “effective sui generis” system as the basis for implementing PBRs also means that Ghana could invoke the safeguard measures in TRIPS as part of the country’s legislative framework to create a balance between PBRs and the public good, particularly on critical issues concerning how GMOs in agriculture should be developed, released and commercialised within the country.<sup>195</sup>

### **3.1 The Notion of *Ordre Public***

Significantly, Article 27.1 of TRIPS does not provide the definition of an ‘invention’ or any standards associated with it, hence, member states are clearly given a broad discretion to determine the level of stringency with which they wish to implement patent

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<sup>191</sup> Marta Pertegas Sende, “Cross-border Enforcement of Patent Rights: An Analysis of the Interface between Intellectual Property and Private International Law” (New York, Oxford University Press, 2002) at 9.

<sup>192</sup> Section 101 of the 35 U.S.C. 66 Stat. 797. Pub. L. 114-38., ch. 950, July 19, 1952.

<sup>193</sup> Convention on the Grant of European Patents, October 5, 1973, 13 I.L.M. 268 (1974). The new text of the Convention adopted by the Administrative Council of the European Patent Organisation by decision of 28 June 2001 (see OJ EPO 2001, Special edition No. 4, at 55. For further analysis, see Thomas Miner, “The European Patent Convention” (1978) 3 *Maryland Journal of International Law* 2, 408-412.

<sup>194</sup> Novartis II/Transgenic Plant, 2000 (Decision of the Enlarged Board of Appeal dated 20 December 1999. G 0001/98, E.P.O.R. 303) para. 3.10, finding that it is not sufficient for the exclusion of Article 53(b) EPC to apply that one or more plant varieties are embraced or may be embraced by the claims.

<sup>195</sup> The Panel in India-Patent Protection for Pharmaceutical and Agricultural Chemical Products (WT/DS50/AB/R S.VI, 19 December 1997) at para. 59, the WTO held that members were free to determine the appropriate method of implementing the provisions of TRIPS in the context of their own domestic legal system.

standards.<sup>196</sup> This same premise allows member states greater freedom to determine the appropriate method of implementing patents to an adequate extent in meeting reasonable requirements of the public. One crucial ground for exception from patentability in Article 27 of TRIPS, under which agro-biotechnology might conceivably be excluded from patentability, is *ordre public* in Article 27.2, even though this provision alone appears insufficient to justify such exclusion, except in limited circumstances.

Significantly, Article 27.2 implies that non-patentability on grounds of *ordre public* or morality is permissible if necessary to prevent commercial exploitation; for example, that which may result in higher prices of patented products. There is no universally accepted notion of *ordre public* and this leaves member countries with some flexibility to define which situations are covered, depending upon their own social orientation and cultural values. Article 27.2 itself indicates that the concept of *ordre public* relates to the protection of inventions that may lead to serious prejudice to human, environment, animal or plant life or health.

Historically, some member states have refined the patentability criteria in the context of specific fields of technology, taking into account the unique concerns posed by such technologies.<sup>197</sup> For instance, this means that anticompetitive practices to correct excessive prices and other abusive practices are allowed. So, on the assumption that the so-called PBRs legislation in Ghana would result in higher prices for seeds and other farming inputs or would not generally fall within the fundamental interest of society, Ghana has the overriding right to invoke adequate safeguard measures.

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<sup>196</sup> Illustratively, in 2001, the United States Patent and Trademark Office (USPTO) revised its utility guidelines to cater specifically to biotechnology inventions. “Guidelines for Examination of Applications for Compliance with Utility Requirements”, 66 Federal Register 4, at 1092-1099: [Docket No. 991027289–0263–02] RIN 0651–AB09] Friday, January 5, 2001. Available at: <<http://www.uspto.gov/web/offices/com/sol/notices/utilexmguide.pdf>> [Accessed 12 March 2016].

<sup>197</sup> For example, The Act implementing the Biotechnology Directive (BioPatG) passed by the German Parliament on December 03, 2004. Section 2.1 states “Patents shall not be granted in respect of inventions; the industrial exploitation of which would be contrary to *ordre public* or morality;” Section 2 lists order public and morality to include (1) Processes for cloning human beings; (2) Processes for modifying the germ line genetic identity of human beings; (3) Use of human embryos for industrial or commercial purposes. For further analysis, see Franz-Josef Zimmer and Svenja Sethmann, “Act Implementing the Directive on the Legal Protection of Biotechnological Inventions in Germany (BioPatG).” Available at: <<http://www.grunecker.de/files/biorili.pdf>> [Accessed 16 March 2016]. See also Ned Stafford, “German Bio-Patent Law Passed” (The Scientist Magazine, 10 December 2004) noting that the German Biotech Patent Law is somewhat at odds with the relevant EU directive (Directive 98/44/EC of 6 July 1998 on the Legal Protection of Biotechnological Inventions) because it ensures that the patent monopoly on a gene sequence is limited to the specific function disclosed and not to all functions.

### 3.2 Public Interests Principle under Article 8 of TRIPS

More significantly, Article 8.1 of TRIPS lays out the normative public interest principles of the TRIPS Agreement.<sup>198</sup> It echoes the TRIPS Agreement's Preamble which recognises the special needs of developing countries in respect of maximum flexibility in the domestic implementation of laws and regulations in order to enable them to create a sound and viable technological base.<sup>199</sup> In addition, the provision, together with Article 7 of TRIPS, confirms the broad and unfettered discretion that member states have to pursue public policy objectives.<sup>200</sup>

At a glance, Article 8.1 of TRIPS stresses the important measures that should be taken into account when formulating national IP laws in order to promote the public interest in sectors deemed to be of vital importance for the socio-economic and technological development of member states.<sup>201</sup> Notably, Article 8.1 of TRIPS is important in limiting the potential scope of violation or impairment provisions to patentable subject matter as it makes clear that a wide range of public policy measures should be reasonably

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<sup>198</sup> Article 8.1 reads:

Members may, in formulating or amending their laws and regulations, adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of this Agreement.

For additional analysis of Article 8 and the general public interest principles in TRIPS see Abdulqawi Yusuf, *TRIPS: Background, Principles and General Provisions*. In *Intellectual Property and International Trade: The TRIPS Agreement*, (eds.) Carlos Correa and Abdulqawi Yusuf (The Hague, Kluwer Law International 2nd Edn. 2008) at 13-15.

<sup>199</sup> Article 66 & 67 of TRIPS. Patent-Related Flexibilities in the Multilateral Legal Framework and their Legislative Implementation at the National and Regional Levels (Fifth Session of the Committee on Development and Intellectual Property, Geneva-Switzerland, CDIP/5/4 Rev. Aug. 18, 2010) at para. 30. See Peter Yu, "The Objectives and Principles of the TRIPS Agreement" (2009) 46 *Houston Law Review* 4, 979 at 1008. See also *The Resource Book on TRIPS and Development* by the UNCTAD-ICTSD (Cambridge, Cambridge University Press, 2005) at 546, stating that Article 8 only states a principle rather than a specific rule and mirror the intention of the treaty-makers to leave members broad discretion as regards its implementation.

<sup>200</sup> Yusuf, *supra* note 198 at 13, arguing that Article 7 provides the main legal bases for member states to continue to maintain a degree of domestic control and legislative flexibility over IP policies in a post-TRIPS environment.

<sup>201</sup> "The Resource Book on TRIPS", *supra* note 199 at 126-127, arguing that Article 8.1 measures adopted by members to address matters of vital socio-economic importance should be presumed to be consistent with TRIPS, and that any member seeking to challenge the exercise of discretion should bear the burden of proving inconsistency. See Henning Grosse Ruse-Khan, "A Comparative Analysis of Policy Space in WTO Law" (Munich-Germany: Max Planck Institute for Intellectual Property, Competition & Tax Law, Research Paper Series No. 08-02, 2008) at 36-38, suggesting the difficulty in reversing the burden of proof as proposed by the Resource Book of TRIPS.

expected when member states amend their national laws.<sup>202</sup> Also, of utmost interest in Article 8.1 of TRIPS are the uncertainties over what constitutes the necessary measures for promoting the public interest in sectors of vital importance to the socio-economic and technological development of member states.

The TRIPS Agreement does not offer any definition of the relevant sectors. In fact, sectors of vital importance may vary from country to country and region to region, and the provision is not excessively narrow for its implementation by developing countries.<sup>203</sup> Unlike developed countries, developing countries' economies have the distinctive characteristics of wide internal divergences in their socio-economic conditions and technological capabilities. Based on the foregoing premise, it is difficult to determine what constitutes a uniform notion of relevant sectors even among developing countries and, therefore, Yu claims each member state should be able to decide what constitutes these sectors based on their needs, goals and interests.<sup>204</sup>

### **3.3 Limited Exception Under Article 30 of TRIPS**

As a categorical proposition, protection of all normal exploitation practices is a key element of the policy reflected in all patent laws. Implicit in the normative argument is a notion that the right to exclude during the patent term is the essential right conveyed by a patent.<sup>205</sup> One of the principal limitations on a patentee's exclusive rights set out in Article 28.1 is the relatively narrow set of exceptions covered by Article 30 of TRIPS, which authorises member states to place limitations that are not discriminatory or do not unreasonably prejudice the legitimate interests of patentees. This is a settled legal understanding within the WTO system.<sup>206</sup>

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<sup>202</sup> Correa, *supra* note 140 at 108.

<sup>203</sup> "The Resource Book on TRIPS", *supra* note 199 at 127. See also Yu, *supra* note 199 at 1011, noting that these sectors can be defined based on interest a particular country wants to pursue.

<sup>204</sup> Peter Yu, "International Enclosure, the Regime Complex, and Intellectual Property Schizophrenia" (2007) *Michigan State Law Review* 1, 1 at 27, stating that member states must fine-tune their IP systems in an effort to better reflect their different needs, interests, and goals. See Correa, *supra* note 140 at 106, observing that identifying these sectors should be considered a matter for the particular members to decide.

<sup>205</sup> Canada - Patent Protection of Pharmaceutical Products (Generic Medicines), WT/DS114/R (17 March 2000).

<sup>206</sup> *Ibid.* at para. 7.36. the panel drew a conclusion that any exception that results in "a substantial curtailment" of the patent owner's exclusive rights is inconsistent with Article 30. See Helfer, *supra* note 123 at 49.

The Panel primarily analysed whether “legitimate interests” is a wider concept than “legal interests”, and concluded in the affirmative.<sup>207</sup> This further emphasises that the public interest consideration shall not be disregarded under TRIPS.<sup>208</sup> Significantly, under the policy of the patent laws both society and the patentee have a “legitimate interest” in using the patent disclosure to support the advancement of social interests.<sup>209</sup> Thus, Article 30 of TRIPS truly allows for limited exceptions to the exclusive rights conferred by a patent.<sup>210</sup> The term “legitimate interests” in this context is a normative assertion calling for the protection of interests that are “justifiable” in the sense that they are supported by relevant public policies or other social norms.<sup>211</sup>

The very existence of Article 30 of TRIPS amounts to a recognition that the definition of patent rights contained in Article 28.1 needs certain adjustments.<sup>212</sup> Given that the primary issue of the normative basis of the right to a patent rests on a widely recognised social policy norm, it shall be a matter for legislation in the member states to determine the extent to which such rights are limited, for patents to meet reasonable requirements of the public, in particular, as Article 30 of TRIPS does not spell out specifically how limited the exceptions may be or how the exceptions could operate in order not to unreasonably conflict with the normal exploitation of the patent.

Article 30 of TRIPS is an exceptionally important provision and a careful analysis of it may help to provide an understanding that the TRIPS Agreement does not completely forbid WTO members from taking any reasonable measures to protect the public interest or the reasonable requirements of the public. It is important to note that Article 30 of TRIPS was adopted as a compromise solution during the TRIPS negotiations when the

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<sup>207</sup> *Ibid.* “Canada - Patent Protection of Pharmaceutical Products”, para. 7.73.

<sup>208</sup> Hans Morten Haugen, “Human Rights and TRIPS Exclusion and Exception Provisions” (2009) 11 *The Journal of World Intellectual Property* 5-6, 345 at 357.

<sup>209</sup> *Id.*

<sup>210</sup> Article 30 of TRIPS reads:

Members may provide limited exceptions to the exclusive rights conferred by a patent, provided that such exceptions do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties.

<sup>211</sup> “Canada - Patent Protection of Pharmaceutical Products”, *supra* note 205, para. 7.69.

<sup>212</sup> See paragraph 14 of a paper submitted by the EU to the TRIPS Council, for the special discussion on intellectual property and access to medicines. (WTO Doc. IP/C/W/280, 20 June 2001) which notes, ‘The EC and their member States consider that Article 30 amounts to a recognition that the patent rights contained in Article 28 (‘Rights Conferred’) may need to be adjusted in certain circumstances’.

negotiators were unable to agree on a list of exceptions to patent holder rights that might be recognised by members.<sup>213</sup>

It was crafted to address a unique situation, such as public interests, under specified conditions. Hence, members' discretion to limit the exclusive rights of right holders is significantly strengthened by Article 30 of TRIPS, which allows members to provide limited exceptions to the exclusive rights conferred by a patent. Specifically, the overriding implication of Article 30 of TRIPS, if followed, would enable Ghana to introduce key exceptions to PBRs via *effective sui generis system*.

### **3.4 Compulsory Licensing under Article 31 of TRIPS**

The TRIPS Agreement deals with compulsory licences as an exception to the minimum requirement that all member states afford a patentee the right of exclusivity during the complete patent term.<sup>214</sup> Compulsory licensing is one mechanism through which governments limit or restrain the exercise of exclusive rights residing in the grant of patents in the public interest.<sup>215</sup> It also functions as a significant instrument that mitigates the restrictive effect of exclusive rights over patents, in striking a balance between the title-holders' interest and the public in the diffusion of knowledge, in order to facilitate access and the affordability of the patented invention.<sup>216</sup>

Thus, Article 31 of TRIPS describes two situations where compulsory licences can be used but this is still an issue that national law must address, as TRIPS does not specify the grounds which justify the creation of compulsory licences.<sup>217</sup> The first is where the

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<sup>213</sup> "Dispute Settlement: World Trade Organisation" (New York and Geneva, The United Nations Conference on Trade and Development, UNCTAD/EDM/Misc.232/Add.18, 2003) at 20.

<sup>214</sup> Abbott, Cottier and Gurry, *supra* note 118 at 196.

<sup>215</sup> Frederick Abbott, "WTO TRIPS Agreement and Its Implications for Access to Medicines in Developing Countries" (Geneva-Switzerland: Study Paper 2a: The Commission on Intellectual Property Rights, 2002) at 28, observing that patent is granted to encourage inventors and investors to undertake socially useful activities. When patents are not exploited, the bargain between society and the inventor/investor is broken. There is no justification for allowing an inventor/investor to block manufacture and export to markets where patented products are required and where there is minimal interference with the commercial value of the patent to the inventor/investor.

<sup>216</sup> Robert Bird, "Developing Nations and the Compulsory Licence: Maximizing Access to Essential Medicines while Minimizing Investment Side Effects" (2009) 37 *The Journal of Law, Medicine & Ethics* 2, 209 at 219, explaining that compulsory licensing is a potentially powerful tool that can be used by developing nations to circumvent patent laws and give their residents access to patented products.

<sup>217</sup> Gervais, *supra* note 107 at 165, commenting that the fact that the grounds for issuing a compulsory licence was left open means that compulsory licensing for failure to work locally is permitted.

licence is required to address an overriding public interest, and the second when patent rights are being used in an anti-competitive manner. One area in which compulsory licences may affect plant breeders is that of dependent patents, which are defined as patents whose use requires the authorisation of an earlier patent owner. Such patents are prevalent in plant breeding, where the creation of new varieties often occurs incrementally in the form of adaptations and improvements of existing varieties, as opposed to radically new innovations.<sup>218</sup>

However, it must be noted that while Article 31 of TRIPS prescribes both procedural and substantive conditions and the way that member states are allowed to amplify the conditions under which compulsory licensing are permissible, it is silent on how these substantive conditions are defined and the grounds on which such a licence may be granted. It is up to members to determine the grounds on which to grant licences to ensure access to patented materials in order to attain specific agricultural objectives (e.g. availability of a given material for farmers) or food security.<sup>219</sup>

The reason why TRIPS is silent on this is that the interpretation of Article 31 of TRIPS has a social purpose and member states also have dissimilar constitutional and social tenets. Therefore, the WTO left that space open for member states own interpretation of what constitutes social standards. More importantly, public policy-based interpretation of Article 31 of TRIPS would suggest that the meaning of the rule of law therein should conform to the underlying social values and interests that Article 31 rule of law is designed to serve, particularly, what is best for society in general.<sup>220</sup>

Accordingly, from a fundamental fairness approach even though agro-biotechnology is, to a large extent, a field of technology, to developing countries it represents a problem area that serves to undermine their traditional customs and general social interests. For example, according to Huhn:

Common law rules were originally understood to be the customary law of the land. The common law did not purport to incorporate the wisest or

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<sup>218</sup> Correa, *supra* note 189 at 194.

<sup>219</sup> *Id.* see also Helfer, *supra* note 123 at 51.

<sup>220</sup> Linda Holdeman Edward, *Legal Writing, Process, Analysis and Organisation* (New York: Aspen Publishers, 1996) at 5.

most enlightened social policies. Instead it reflected the customs of the people in the traditions of the community.<sup>221</sup>

The US Supreme Court also identified “tradition” as a principal test for determining citizens’ fundamental rights by emphasising that ‘constitutional rights are those rights that are rooted in the traditions and conscience of our people as to be ranked as fundamental’.<sup>222</sup> Significantly, Article 73(b) of TRIPS further enables member states to pursue any action which they consider necessary for the protection of their essential security interests.

More importantly, paragraph c of Article 73 also obliges member states to take any action in pursuance of their obligations under the UN Charter. It is important to note that the MDGs carry a UN mandate.<sup>223</sup> Pursuant to the UN Charter, food security is found in Chapter 1. Article 1.3 provides one of the purposes of the UN:

To achieve international co-operation in solving international problems of an economic, social, cultural, or humanitarian character, and in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language, or religion.<sup>224</sup>

In a report by Olivier De Schutter, the UN Special Rapporteur on the Right to Food, entitled “The Transformative Potential of the Right to Food”, the UN called for a redesign of the world food system to cater for changes to the way IPRs applied to food and agriculture.<sup>225</sup> The report notes in paragraph A(2)(a) that developing countries must make swift progress towards the implementation of farmers’ rights, as defined in Article 9 of the IT-PGRFA.

Likewise, paragraph A(2)(b) calls on member states not to allow patents on plants and to establish research exemptions in legislation protecting PBRs.<sup>226</sup> The report also appealed to donors and international institutions to assist developing countries’ efforts to establish an effective sui generis regime for the protection of IPRs which suits their development,

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<sup>221</sup> Wilson Huhn, “*The Five Types of Legal Arguments*” (Durham, NC: Carolina Academic Press, 2002) at 45.

<sup>222</sup> *Palko vs. State of Connecticut*, 302 US 319 (1937), para. 325 [emphasis added].

<sup>223</sup> See *supra* note 10 for the UN MDGs of which Goal 1 emphasises on the “Eradicate Extreme Poverty & Hunger: Target 1.C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger”

<sup>224</sup> United Nations, Charter of the United Nations, 24 October 1945, 1 UNTS XVI.

<sup>225</sup> “The UN Human Rights Council Resolution A/HRC/25/57” (Geneva, Twenty-fifth session, Agenda item 3, 24 January 2014).

<sup>226</sup> *Ibid.* Annex at 22.

needs and is based on human rights. Finally, the UN asked member states to establish the right to food security in their national laws and constitutions.<sup>227</sup>

### **Conclusion Based on a Cautious Approach**

The question of how patents and PBRs affect the processes of food security appears complex and based on multiple variables. Even though Article 27.3(b) of TRIPS compels member states to provide patents for plant varieties either through patents or through an “effective sui generis” system or by any combination thereof, the same provision obligates members to exclude from patentability plants and animals and essentially biological processes for the production of plants. The literature that advocates often cite suggests PBRs could be the solution to hunger while in fact eradication of extreme hunger remains a question of global wealth distribution. Thus, the idea that PBRs are key to removing extreme hunger is not a good argument since it does not significantly address the ever-divisive question of whether or not hunger is created and maintained by human decision.

Consequently, such an understanding cannot be presented on a strictly constricted basis as it casts doubt to a considerable extent on whether debates regarding food security can be premised on a simple analysis as opposed to exhaustive propositions. This paper has examined in detail the empirical consequences of the use of patents or PBRs on GMOs in agriculture by delving into their conceptual legal basis. It concludes that a legal balance is required in order to promote the dignity of the world’s disenfranchised populations. This can be achieved by the adoption of necessary and effective social policy norms within PBRs legislative frameworks in order to offset the potential ramifications associated with stringent PBRs.

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<sup>227</sup> *Ibid.* Annex C(1)(a) at 24.

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